DCR-HC39E/HC41/HC42/HC42E/HC43/HC43E
RMT-831

SERVICE MANUAL

LEVEL 2

Ver 1.0 2005.01
Revision History

How to use Acrobat Reader

Photo: DCR-HC43E

DCR-HC42
US Model
Canadian Model
DCR-HC39E/HC42E
AEP Model
UK Model
East European Model
North European Model
DCR-HC42/HC42E/HC43E
E Model
DCR-HC42E
Australian Model
Hong Kong Model
DCR-HC43
Brazilian Model
DCR-HC43E
Chinese Model
DCR-HC42/HC42E
Tourist Model
DCR-HC42
Korea Model
DCR-HC41
Japanese Model

Z MECHANISM (MDX-Z210)

Link

SPECIFICATIONS	BLOCK DIAGRAMS	PRINTED WIRING BOARDS
SERVICE NOTE	FRAME SCHEMATIC DIAGRAMS	REPAIR PARTS LIST
DISASSEMBLY	SCHEMATIC DIAGRAMS	

- For ADJUSTMENTS (SECTION 6), refer to SERVICE MANUAL, ADJ (9-876-783-51).
- For INSTRUCTION MANUAL, refer to SERVICE MANUAL, LEVEL 1 (9-876-783-41). (EXCEPT J MODEL)
- For MECHANISM ADJUSTMENTS, refer to the “DV MECHANICAL ADJUSTMENT MANUAL VIII Z (Z200/Z210/Z300/Z310) MECHANISM ” (EXCEPT J: 9-876-724-1□) (J: 9-876-724-0□).
- Reference No. search on printed wiring boards is available.
- Table for differences of function of each model.
- TO TAKE OUT A CASSETTE WHEN NOT EJECT (FORCE EJECT)
- HELP: Sheet attachment positions and procedures of processing the flexible boards/harnesses are shown.

On the VC-378 board

This service manual provides the information that is premised the circuit board replacement service and not intended repair inside the VC-378 board.
Therefore, schematic diagrams, printed wiring boards, mounted parts location and electrical parts list of the VC-378 board are not shown.

The following pages are not shown.

Schematic diagrams	Pages 4-9 to 4-46
Printed wiring boards	Pages 4-67 to 4-70
Waveforms	Pages 4-82 to 4-87
Mounted parts location	Pages 4-90 and 4-91
Electrical parts list	Pages 5-15 to 5-22

Mini DV Digital Video Cassette

DIGITAL VIDEO CAMERA RECORDER

SONY®

DCR-HC39E/HC41/HC42/HC42E/HC43/HC43E
9-876-783-31

Sony EMCS Co.

2005A0500-1
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Published by DI Technical Support Section

Self Diagnosis Supported model

HANDYCAM

MEMORY STICK ™

InfoLITHIUM ™ P SERIES

SPECIFICATIONS

System

Video recording system	2 rotary heads, Helical scanning system
Still image recording system	Exif Ver. 2.2*1
Audio recording system	Rotary heads, PCM system Quantization: 12 bits (Fs 32 kHz, stereo 1, stereo 2), 16 bits (Fs 48 kHz, stereo)
Video signal	DCR-HC42/HC43: NTSC color, EIA standards DCR-HC39E/HC42E/HC43E: PAL color, CCIR standards
Usable cassette	Mini DV cassette with the Mini DV mark printed
Tape speed	SP: Approx. 18.81 mm/s LP: Approx. 12.56 mm/s
Recording/ playback time	SP: 60 min LP: 90 min (using a DVM60 cassette)
Fast forward/ rewind time	Approx. 2 min 40 s (using a DVM60 cassette)
Viewfinder	Electric viewfinder DCR-HC39E: black and white DCR-HC42/HC42E/HC43/HC43E: color
Image device	3.27 mm (1/5.5 type) CCD (Charge Coupled Device) Gross: Approx. 1 070 000 pixels Effective (still): Approx. 1 000 000 pixels Effective (movie): Approx. 690 000 pixels
Lens	Carl Zeiss Vario-Tessar Combined power zoom lens Filter diameter: 25 mm (1 in.) 12 × (Optical), 480 × (Digital) F=1.8 - 2.5
Focal length	f=3.0 - 36 mm (1/8 - 1 7/16 in.) When converted to a 35 mm still camera: In CAMERA-TAPE: 16:9 mode*2: 46 ~ 628.5 mm (1 13/16 - 24 3/4 in.) 4:3 mode: 40 ~ 480 mm (1 5/8 - 19 in.) In CAMERA-MEMORY: 4:3 mode: 48 ~ 576 mm (1 15/16 - 22 3/4 in.) 16:9 mode: 43.6 ~ 523.2 mm (1 3/4 - 20 5/8 in.)
Color temperature	[AUTO], [ONE PUSH], [INDOOR] (3 200 K), [OUTDOOR] (5 800 K)
Minimum illumination	7 lx (lux) (F 1.8) 0 lx (lux) (during NightShot plus function)*3

*1"Exif" is a file format for still images, established by the JEITA (Japan Electronics and Information Technology Industries Association). Files in this format can have additional information such as your camcorder's setting information at the time of recording.

*2In 16:9 mode, the focal length figures are actual figures resulting from wide angle pixel readout.

*3Objects unable to be seen due to the dark can be shot with infrared lighting.

Input/Output connectors

DCR-HC42/HC42E/HC43/HC43E:

Audio/Video input/output	10-pin connector Input/output auto switch Video signal: 1 Vp-p, 75 Ω (ohms), unbalanced Luminance signal: 1 Vp-p, 75 Ω (ohms), unbalanced Chrominance signal: DCR-HC42/HC43: 0.286 Vp-p, 75 Ω (ohms), unbalanced DCR-HC42E/HC43E: 0.3 Vp-p, 75 Ω (ohms), unbalanced Audio signal: 327 mV (at output impedance more than 47 kΩ (kilohms)), Input impedance more than 47 kΩ (kilohms), Output impedance with less than 2.2 kΩ (kilohms)
LANC jack	Stereo mini-minijack (Ø 2.5 mm)

DCR-HC39E:

Audio/Video output	10-pin connector Video signal: 1 Vp-p, 75 Ω (ohms), unbalanced Luminance signal: 1 Vp-p, 75 Ω (ohms), unbalanced Chrominance signal: 0.3 Vp-p, 75 Ω (ohms), unbalanced Audio signal: 327 mV (at output impedance more than 47 kΩ (kilohms)), Output impedance with less than 2.2 kΩ (kilohms)
LANC jack	Stereo mini-minijack (Ø 2.5 mm)

LCD screen

Picture	6.9 cm (2.7 type, aspect ratio 16:9)
Total dot number	123 200 (560 × 220)

General

Power requirements	DC 7.2 V (battery pack) DC 8.4 V (AC Adaptor)
Average power consumption	DCR-HC42/HC43: During camera recording using the viewfinder 2.6 W During camera recording using the LCD 3.0 W During camera recording using the viewfinder and the LCD 3.2 W DCR-HC39E/HC42E/HC43E: During camera recording using the viewfinder 2.5 W During camera recording using the LCD 2.9 W During camera recording using the viewfinder and the LCD 3.1 W
Operating temperature	0 °C to 40 °C (32 °F to 104 °F)
Storage temperature	-20 °C to + 60 °C (-4 °F to + 140 °F)
Dimensions (approx.)	54.7 × 90 × 111.7 mm (2 1/4 × 3 5/8 × 4 1/2 in.) (w/h/d)
Mass (approx.)	410 g (14 oz) main unit only 470 g (1 lb) including the NP-FP50 rechargeable battery pack and DVM60 cassette.
Supplied accessories	"Memory Stick Duo" 16MB (1) (DCR-HC43E) Memory Stick Duo adaptor (1) (DCR-HC43E) AC Adaptor (1) Power cord (1) Handycam Station (1) Wireless Remote Commander (1) A/V connecting cable (1) USB cable (1) Shoulder Strap (1) Rechargeable battery pack (1) CD-ROM "Picture Package Ver.1.5" (1) 21-pin adaptor (1) (AEP, UK) Conversion 2P adaptor (1) (E, JE) Shoe cover (1) Operating Guide (1) See page 5-23.

Handycam Station DCRA-C121 (DCR-HC42/HC42E/HC43/ HC43E)

Audio/Video input/output	10-pin connector Input/output auto switch Video signal: 1 Vp-p, 75 Ω (ohms), unbalanced Luminance signal: 1 Vp-p, 75 Ω (ohms), unbalanced Chrominance signal: DCR-HC42/HC43: 0.286 Vp-p, 75 Ω (ohms), unbalanced DCR-HC42E/HC43E: 0.3 Vp-p, 75 Ω (ohms), unbalanced Audio signal: 327 mV (at output impedance more than 47 kΩ (kilohms)), Input impedance more than 47 kΩ (kilohms), Output impedance with less than 2.2 kΩ (kilohms)
USB jack	mini-B
DV input/output	4-pin connector

DCRA-C123 (DCR-HC39E)

Audio/Video output	10-pin connector Video signal: 1 Vp-p, 75 Ω (ohms), unbalanced Luminance signal: 1 Vp-p, 75 Ω (ohms), unbalanced Chrominance signal: 0.3 Vp-p, 75 Ω (ohms), unbalanced Audio signal: 327 mV (at output impedance more than 47 kΩ (kilohms)), Output impedance with less than 2.2 kΩ (kilohms)
USB jack	mini-B
DV output	4-pin connector

AC Adaptor AC-L25A/L25B

Power requirements	AC 100 - 240 V, 50/60 Hz
Current consumption	0.35 - 0.18 A
Power consumption	18 W
Output voltage	DC 8.4 V*
Operating temperature	0 °C to 40 °C (32 °F to 104 °F)
Storage temperature	-20 °C to + 60 °C (-4 °F to + 140 °F)
Dimensions (approx.)	56 × 31 × 100 mm (2 1/4 × 1 1/4 × 4 in.) (w/h/d) excluding the projecting parts
Mass (approx.)	190 g (6.7 oz) excluding the mains lead

* See the label on the AC Adaptor for other specifications.

Rechargeable battery pack NP-FP50

Maximum output voltage	DC 8.4 V
Output voltage	DC 7.2 V
Capacity	4.9 wh (680 mAh)
Dimensions (approx.)	31.8 × 18.5 × 45.0 mm (1 5/16 × 3/4 × 1 13/16 in.) (w/h/d)
Mass (approx.)	40 g (1.5 oz)
Operating temperature	0 °C to 40 °C (32 °F to 104 °F)
Type	Lithium ion

Design and specifications are subject to change without notice.

ENGLISH JAPANESE

自己診断搭載機種

概略仕様

システム

録画方式	回転2ヘッドヘリカルスキャン
静止画記録方式	Exif Ver.2.2*1)
録音方式	回転2ヘッド 12ビット32kHz (ステレオ1、ステレオ2) 16ビット48kHz(ステレオ)
映像信号	NTSCカラー、EIA標準方式
使用可能カセット	miniDVマークのついたミニDVカセット
テープ速度	SP:約18.81mm/秒 LP:約12.56mm/秒
録画/再生時間	SP:60分 LP:90分 (DVM60使用時)
早送り、巻き戻し時間	約2分40秒(DVM60使用時)
ファインダー	電子ファインダー:カラー
撮像素子	3.27mm(1/5.5型)CCD固体撮像素子 総画素数:約107万画素 静止画時有効画素数:約100万画素 動画時有効画素数:約69万画素
ズームレンズ	カール ツァイス バリオ テッサー 12倍(光学)、150倍(デジタル) f=3.0 ～ 36mm 35mmカメラ換算では 「撮る−テープ」時: 46 ～ 628.5mm (16:9モード)*2) (4:3モードでは40 ～ 480mm) 「撮る−メモリー」時: 48 ～ 576mm(4:3モード) (16:9モードでは43.6 ～ 523.2mm) F1.8 ～ 2.5 フィルター径25mm
色温度切り換え	[オート]、[ワンプッシュ]、 [屋内](3 200K)、 [屋外](5 800K)
最低被写体照度	15 lx(ルクス)(F1.8) 0 lx(ルクス)(NightShot plus時)

*1) (社)電子情報技術産業協会(JEITA)にて制定された、撮影情報などの付帯情報を追加することができる静止画用のファイルフォーマット。

*2) 16:9時は広角画素読み出しによる実動作値

入/出力端子

映像/音声端子	10ピン特殊コネクター 入力/出力自動切り換え 映像:1 Vp-p 75 Ω不平衡 Y出力 1Vp-p 75 Ω不平衡 C出力 0.286Vp-p 75 Ω不平衡 音声:327mV(47 kΩ負荷時)、入力インピーダンス47 kΩ以上、出力インピーダン ス2.2 kΩ以下
LANC端子	ステレオミニミニジャック (⌀2.5)

液晶画面

画面サイズ	6.9cm(2.7型、アスペクト比16:9)
総ドット数	123 200ドット 横560×縦220

電源部、その他

電源電圧	バッテリー端子入力7.2V DC端子入力8.4V
消費電力	2.6W(ファインダー使用時、明るさ標準) 3.0W(液晶画面使用時、明るさ標準) 3.2W(ファインダー、液晶画面使用時、明るさ標準)
動作温度	0℃～ +40℃
保存温度	−20℃～ +60℃
外形寸法	約54.7×90×111.7mm (最大突起部を除く)(幅×高さ×奥行き)
本体質量	約 410g(本体のみ)
撮影時総質量	約 470g(バッテリー NP-FP50、テープ(DVM60)含む。)
付属品	ACアダプター(1) 電源コード(1) ハンディカムステーション(1) ワイヤレスリモコン(1) AV接続ケーブル(1) USBケーブル(1) リチャージャブルバッテリーパック NP-FP50(1) CD-ROM「Picture Package Ver.1.5」(1) シューカバー(1) 取扱説明書 (1) 安全のために(1) 保証書(1)

ハンディカムステーション DCRA-C121

映像/音声端子	10ピン特殊コネクター 入力/出力自動切り換え 映像:1 Vp-p 75 Ω不平衡 Y出力 1Vp-p 75 Ω不平衡 C出力 0.286Vp-p 75 Ω不平衡 音声:327mV(47 kΩ負荷時)、入力インピーダンス47 kΩ以上、出力インピーダン ス2.2 kΩ以下
USB端子	mini-B
DV端子	i.LINK(IEEE1394 4ピンコネクター S100)

ACアダプター AC-L25A/L25B

電源	AC100 ～ 240V、50/60Hz
消費電力	18W
定格出力	DC8.4V*
動作温度	0℃～ +40℃
保存温度	−20℃～ +60℃
外形寸法	約56×31×100mm (最大突起部をのぞく)(幅×高さ×奥行き)
質量	約190g(本体のみ)

* その他の仕様についてはACアダプターのラベルをご覧ください。

リチャージャブルバッテリーパック NP-FP50

最大電圧	DC8.4V
公称電圧	DC7.2V
容量	4.9wh(680mAh)
最大外形寸法	約31.8×18.5×45.0mm (幅×高さ×奥行き)
質量	約40g
使用温度	0℃～ +40℃
使用電池	Li-ion

本機の仕様および外観は、改良のため予告なく変更することがありますが、ご了承ください。

Table for differences of function

Model	DCR-HC39E	DCR-HC41	DCR-HC42	DCR-HC42E
Destination	AEP, UK, NE, EE	J	US, CND, E, KR, JE	AEP, UK, NE, EE, E, AUS, HK, JE
Color system	PAL	NTSC	NTSC	PAL
Electrical viewfinder	Black and White	Color	Color	Color
Digital zoom	480 x	150 x	480 x	480 x
A/V jack	OUT	IN/OUT	IN/OUT	IN/OUT
DV Interface on the Cradle (Handycam Station)	OUT	IN/OUT	IN/OUT	IN/OUT

Model	DCR-HC43	DCR-HC43E
Destination	BR	CH, E
Color system	NTSC	PAL
Electrical viewfinder	Color	Color
Digital zoom	480 x	480 x
A/V jack	IN/OUT	IN/OUT
DV Interface on the Cradle (Handycam Station)	IN/OUT	IN/OUT

- Abbreviation
  AUS : Australian model
  BR : Brazilian model
  CH : Chinese model
  CND : Canadian model
  EE : East European model
  HK : Hong Kong model
  J : Japanese model
  JE : Tourist model
  KR : Korea model
  NE : North European model

CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Keep the temperature of the soldering iron around 270˚C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

Unleaded solder

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)

: LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40°C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350°C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

注意
電池の交換は，正しく行わないと破裂する恐れがあります。電池を交換する場合には必ず同じ型名の電池又は同等品と交換してください。

サービス，点検時には次のことにご注意下さい。

1. **注意事項をお守りください。**
   サービスのとき特に注意を要する個所については，キャビネット，シャーシ，部品などにラベルや捺印で注意事項を表示しています。これらの注意書き及び取扱説明書等の注意事項を必ずお守り下さい。
2. **指定部品のご使用を**
   セットの部品は難燃性や耐電圧など安全上の特性を持ったものとなっています。従って交換部品は，使用されていたものと同じ特性の部品を使用して下さい。特に回路図，部品表に⚠印で指定されている安全上重要な部品は必ず指定のものをご使用下さい。
3. **部品の取付けや配線の引きまわしはもとどおりに**
   安全上，チューブやテープなどの絶縁材料を使用したり，プリント基板から浮かして取付けた部品があります。また内部配線は引きまわしやクランパによって発熱部品や高圧部品に接近しないよう配慮されていますので，これらは必ずもとどおりにして下さい。
4. **サービス後は安全点検を**
   サービスのために取外したネジ，部品，配線がもとどおりになっているか，またサービスした個所の周辺を劣化させてしまったところがないかなどを点検し，安全性が確保されていることを確認して下さい。
5. **チップ部品交換時の注意**
   - 取外した部品は再使用しないで下さい。
   - タンタルコンデンサのマイナス側は熱に弱いため交換時は注意して下さい。
6. **フレキシブルプリント基板の取扱いについて**
   - コテ先温度を270℃前後にして行なって下さい。
   - 同一パターンに何度もコテ先を当てないで下さい。（３回以内）
   - パターンに力が加わらないよう注意して下さい。
7. **無鉛半田について**
   無鉛半田を使用している基板には，無鉛（Lead Free）を意味するレッドフリーマークがプリントされています。
   （注意： 基板サイズによっては，無鉛半田を使用していてもレッドフリーマークがプリントされていないものがあります）
   LF：レッドフリーマーク
   無鉛半田には，以下の特性があります。
   - 融点が従来の半田よりも約40℃高い。
     従来の半田こてをそのまま使用することは可能ですが，少し長めにこてを当てる必要があります。
     温度調節機能のついた半田こてを使用する場合，約350℃に設定して下さい。
     注意：半田こてを長く当てすぎると，基板のパターン（銅箔）がはがれてしまうことがありますので，注意して下さい。
   - 粘性が強い
     従来の半田よりも粘性が強いため，IC端子などが半田ブリッジしないように注意して下さい。
   - 従来の半田と混ぜて使用可能
     無鉛半田には無鉛半田を追加するのが最適ですが，従来の半田を追加しても構いません。

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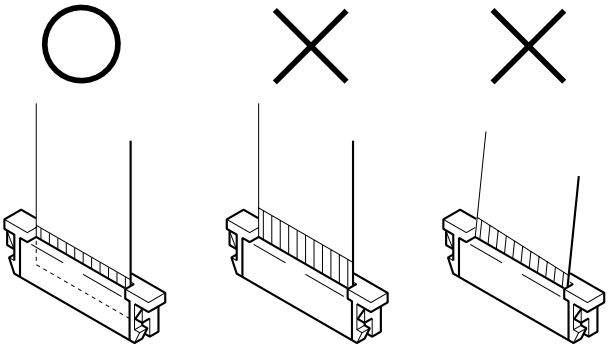
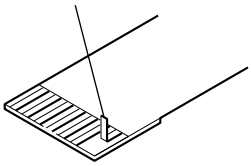
1-1. NOTE FOR REPAIR

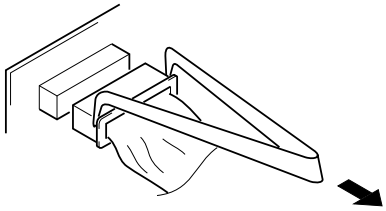
Make sure that the flat cable and flexible board are not cracked of bent at the terminal.
Do not insert the cable insufficiently nor crookedly.



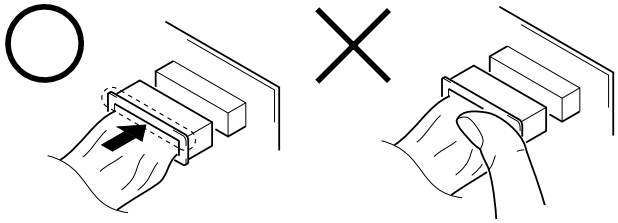
Cut and remove the part of gilt which comes off at the point.
(Be careful or some pieces of gilt may be left inside)



When remove a connector, don't pull at wire of connector.
It is possible that a wire is snapped.



When installing a connector, don't press down at wire of connector.
It is possible that a wire is snapped.



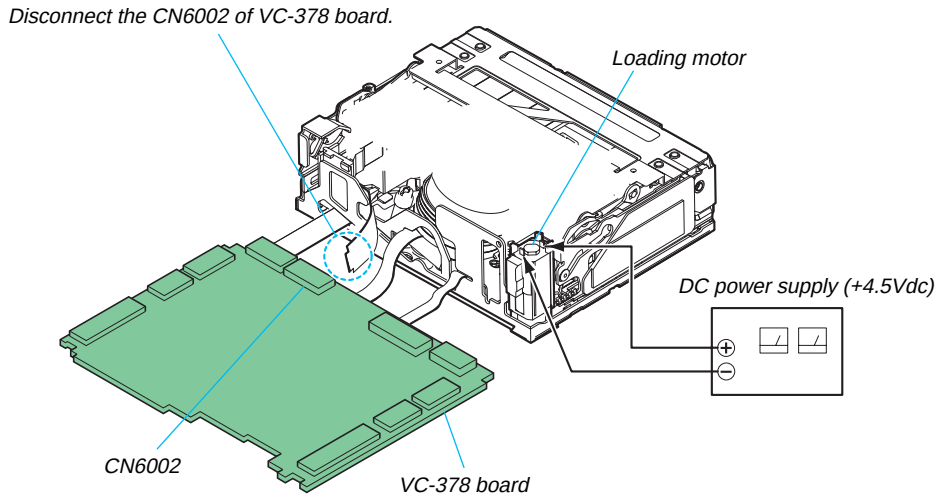
1-2. POWER SUPPLY DURING REPAIRS

In this unit, about 10 seconds after power is supplied to the battery terminal using the regulated power supply (8.4V), the power is shut off so that the unit cannot operate.
These following method is available to prevent this.

Method:
Use the AC power adaptor (AC-L25A/L25B).

1-3. TO TAKE OUT A CASSETTE WHEN NOT EJECT (FORCE EJECT)

① Refer to “2. DISASSEMBLY” to remove the mechanism deck block.
② Disconnect the CN6002 of VC-378 board.
③ Supply +4.5V from the DC power supply to the loading motor and unload with a pressing the cassette compartment.



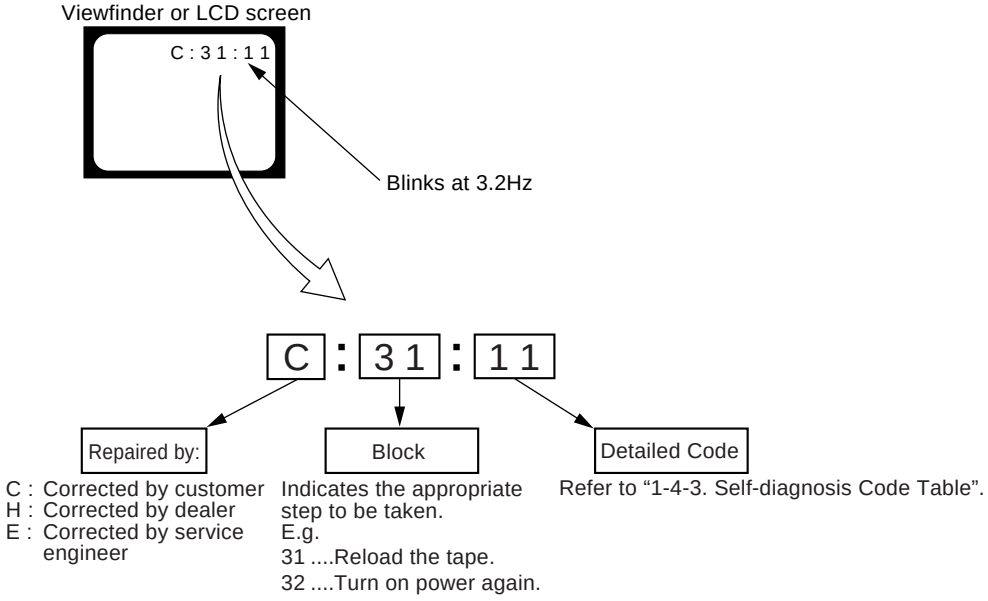
1-4. SELF-DIAGNOSIS FUNCTION

1-4-1. Self-diagnosis Function

When problems occur while the unit is operating, the self-diagnosis function starts working, and displays on the viewfinder or LCD screen what to do. This function consists of two display; self-diagnosis display and service mode display.
Details of the self-diagnosis functions are provided in the Instruction manual.

1-4-2. Self-diagnosis Display

When problems occur while the unit is operating, the counter of the viewfinder or LCD screen shows a 4-digit display consisting of an alphabet and numbers, which blinks at 3.2 Hz. This 5-character display indicates the “repaired by:”, “block” in which the problem occurred, and “detailed code” of the problem.


Viewfinder or LCD screen
C : 3 1 : 1 1
Blinks at 3.2Hz
C : 31 : 11
Repaired by:
Block
Detailed Code
C : Corrected by customer
H : Corrected by dealer
E : Corrected by service engineer
Indicates the appropriate step to be taken.
E.g.
31 ....Reload the tape.
32 ....Turn on power again.
Refer to “1-4-3. Self-diagnosis Code Table”.

1-4-3. Self-diagnosis Code Table

Self-diagnosis Code					Symptom/State	Correction
Repaired by:	Block Function		Detailed Code			
C	0	4	0	0	Non-standard battery is used.	Use the InfoLITHIUM battery.
C	2	1	0	0	Condensation.	Remove the cassette, and insert it again after one hour.
C	2	2	0	0	Video head is dirty.	Clean with the optional cleaning cassette.
C	3	1	1	0	LOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3	1	1	1	UNLOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3	1	2	0	T reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
C	3	1	2	1	S reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
C	3	1	2	2	T reel fault.	Load the tape again, and perform operations from the beginning.
C	3	1	2	3	S reel fault.	Load the tape again, and perform operations from the beginning.
C	3	1	3	0	FG fault when starting capstan.	Load the tape again, and perform operations from the beginning.
C	3	1	3	1	FG fault during normal capstan operations.	Load the tape again, and perform operations from the beginning.
C	3	1	4	0	FG fault when starting drum.	Load the tape again, and perform operations from the beginning.
C	3	1	4	1	PG fault when starting drum.	Load the tape again, and perform operations from the beginning.
C	3	1	4	2	FG fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3	1	4	3	PG fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3	1	4	4	Phase fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3	2	1	0	LOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	1	1	UNLOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	0	T reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	1	S reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	2	T reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	3	S reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	3	0	FG fault when starting capstan.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	3	1	FG fault during normal capstan operations.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4	0	FG fault when starting drum.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4	1	PG fault when starting drum.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4	2	FG fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4	3	PG fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4	4	Phase fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.

Self-diagnosis Code			Symptom/State	Correction
Repaired by:	Block Function	Detailed Code		
E	6 1	0 0	Difficult to adjust focus (Cannot initialize focus.)	Inspect the lens block focus MR sensor (Pin ②, ④ of CN3801 of VC-378 board) when focusing is performed when the touch panel is operated in the focus manual mode and the focus motor drive circuit (IC3803 of VC-378 board) when the focusing is not performed.
E	6 1	1 0	Zoom operations fault (Cannot initialize zoom lens.)	Inspect the lens block zoom reset sensor (Pin ㉒ of CN3801 of VC-378 board) when zooming is performed when the zoom switch is operated and the zoom motor drive circuit (IC3803 of VC-378 board) when zooming is not performed.
E	6 1	1 1	Focus lens initializing failure and zoom lens initializing failure occur simultaneously.	Inspect the flexible board for breakage or loose connection. If not faulty, inspect the focus and zoom motor drive circuit (IC3803 of VC-378 board).
E	6 2	0 0	Steadyshot function does not work well. (With pitch angular velocity sensor output stopped.)	Inspect pitch angular velocity sensor (SE601 of SI-042 board) peripheral circuits.
E	6 2	0 1	Steadyshot function does not work well. (With yaw angular velocity sensor output stopped.)	Inspect yaw angular velocity sensor (SE602 of SI-042 board) peripheral circuits.

1. SERVICE NOTE

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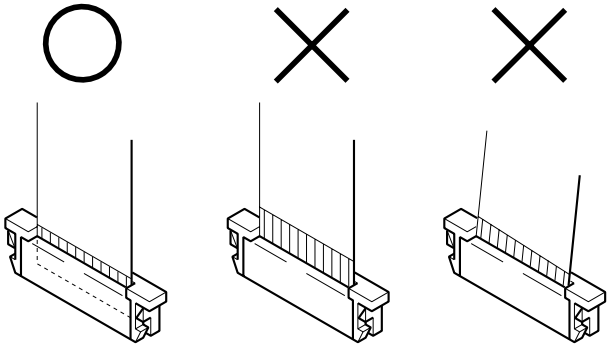
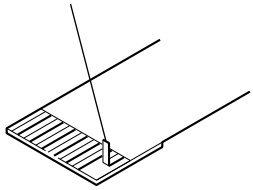
1-1. 修理時の注意

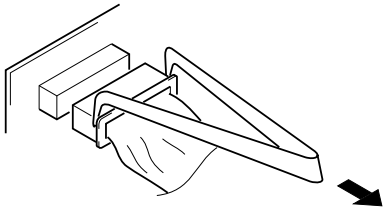
フラットケーブルおよびフレキシブル基板の端子面に欠け，折れ等がないことを確認する。
また，コネクタへの接続は，差し込み不足や斜め差しにならないように注意する。



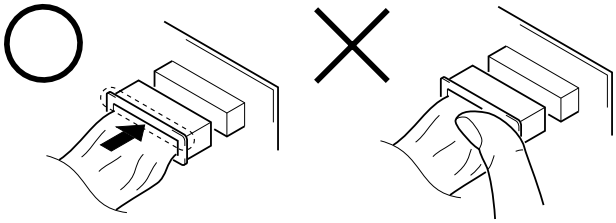
先端の剥がれたメッキ部はカットして除去する。
（メッキ破片がコネクタ内に残っている場合もあるので注意）



コネクタを取り外す時に，線材部(極細)を持って引っ張ると断線する恐れがありますので，絶対に線材部(極細)を持って引っ張らないで下さい。



線材部(極細)を押さえながらコネクタを差し込むと，線材部(極細)が断線する恐れがありますので，絶対に線材部(極細)には負担をかけないで下さい。



1-2. 修理／調整時の電源供給について

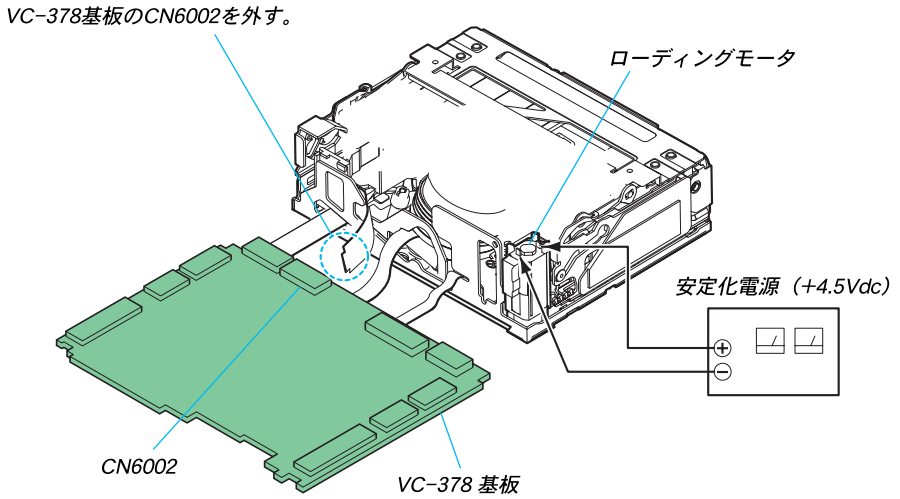
本機では，安定化電源(8.4Vdc)からバッテリ端子に電源を供給した場合，約10秒後にシャットオフし，動作しなくなります。これを避けるため，下記の方法を用いてください。

方法：

DC入力端子を使用する。(ACアダプタ(AC-L25A/L25Bなど)を使用する。)

1-3. イジェクトしない時のカセット取出し方法(強制イジェクト)

① 2. DISASSEMBLYを参照し，メカデッキを外す。
② VC-378基板CN6002（27P）を外す。
③ カセコン組立を押さえながら，安定化電源より+4.5Vをローディングモータに加え，アンローディングさせる。



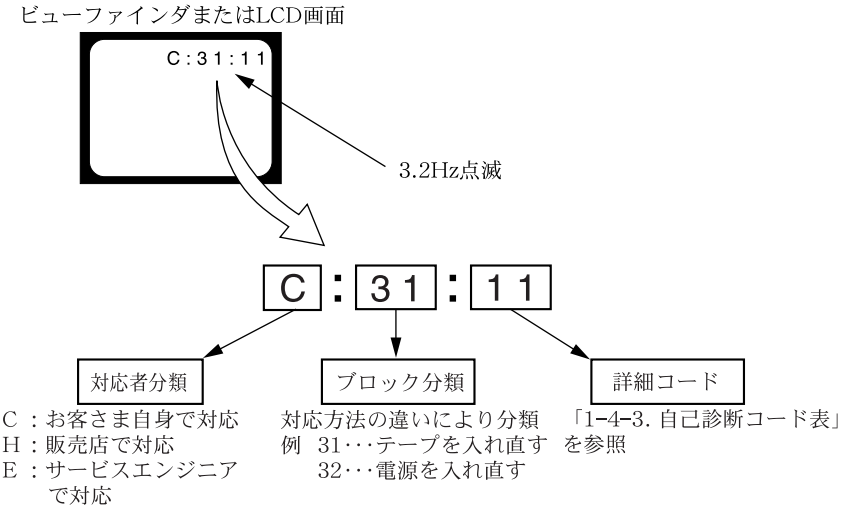
1-4. 自己診断機能

1-4-1. 自己診断機能について

本機の動作に不具合が生じたとき，自己診断機能が働き，ビューファインダまたはLCD画面に，どう処置したらよいか判断できる表示を行います。「自己診断表示」と「サービスモード表示」の2つの表示があります。自己診断機能については取扱説明書にも掲載されています。

1-4-2. 自己診断表示

本機の動作に不具合が生じたとき，ビューファインダまたはLCD画面のカウンタ表示部分がアルファベットと数字の4桁表示になり，3.2Hzで点滅します。この5文字の表示によって対応者分類および不具合の生じたブロックの分類，不具合の詳細コードを示します。



1-4-3. 自己診断コード表

自己診断コード			症状／状態	対応／方法
対応者	ブロック機能	詳細コード		
C	04	00	標準でないバッテリを使用している	インフォリチウムバッテリを使用する
C	21	00	結露している	カセットを取り出して，約1時間してからもう一度入れ直す
C	22	00	ビデオヘッドが汚れている	別売のクリーニングカセットできれいにする
C	31	10	LOAD方向，ローディング所定時間内終了せず	テープを入れ直し，再度操作し直す
C	31	11	UNLOAD方向，ローディング所定時間内終了せず	テープを入れ直し，再度操作し直す
C	31	20	UNLOAD時，Tリール側テープ弛み	テープを入れ直し，再度操作し直す
C	31	21	UNLOAD時，Sリール側テープ弛み	テープを入れ直し，再度操作し直す
C	31	22	Tリール異常	テープを入れ直し，再度操作し直す
C	31	23	Sリール異常	テープを入れ直し，再度操作し直す
C	31	30	キャプスタン起動時FG異常	テープを入れ直し，再度操作し直す
C	31	31	キャプスタン定常時FG異常	テープを入れ直し，再度操作し直す
C	31	40	ドラム起動時FG異常	テープを入れ直し，再度操作し直す
C	31	41	ドラム起動時PG異常	テープを入れ直し，再度操作し直す
C	31	42	ドラム定常時FG異常	テープを入れ直し，再度操作し直す
C	31	43	ドラム定常時PG異常	テープを入れ直し，再度操作し直す
C	31	44	ドラム定常時位相異常	テープを入れ直し，再度操作し直す
C	32	10	LOAD方向，ローディング所定時間内終了せず	バッテリまたは電源ケーブルを外して付け直し，再度操作し直す
C	32	11	UNLOAD方向，ローディング所定時間内終了せず	バッテリまたは電源ケーブルを外して付け直し，再度操作し直す
C	32	20	UNLOAD時，Tリール側テープ弛み	バッテリまたは電源ケーブルを外して付け直し，再度操作し直す
C	32	21	UNLOAD時，Sリール側テープ弛み	バッテリまたは電源ケーブルを外して付け直し，再度操作し直す
C	32	22	Tリール異常	バッテリまたは電源ケーブルを外して付け直し，再度操作し直す
C	32	23	Sリール異常	バッテリまたは電源ケーブルを外して付け直し，再度操作し直す
C	32	30	キャプスタン起動時FG異常	バッテリまたは電源ケーブルを外して付け直し，再度操作し直す
C	32	31	キャプスタン定常時FG異常	バッテリまたは電源ケーブルを外して付け直し，再度操作し直す
C	32	40	ドラム起動時FG異常	バッテリまたは電源ケーブルを外して付け直し，再度操作し直す
C	32	41	ドラム起動時PG異常	バッテリまたは電源ケーブルを外して付け直し，再度操作し直す
C	32	42	ドラム定常時FG異常	バッテリまたは電源ケーブルを外して付け直し，再度操作し直す
C	32	43	ドラム定常時PG異常	バッテリまたは電源ケーブルを外して付け直し，再度操作し直す
C	32	44	ドラム定常時位相異常	バッテリまたは電源ケーブルを外して付け直し，再度操作し直す

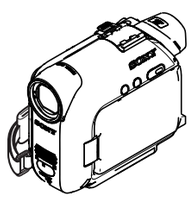
自己診断コード			症状／状態	対応／方法
対応者	ブロック機能	詳細コード		
E	6 1	0 0	フォーカスが合いにくい (フォーカスの初期化ができない)	フォーカス手動モードでタッチパネルを操作した時, フォーカス動作をすればレンズブロックのフォーカスMRセンサ(VC-378基板CN3801 ②, ④ピン)を点検。フォーカス動作をしなければフォーカスモータドライブ回路(VC-378基板IC3803)を点検。
E	6 1	1 0	ズーム動作の異常(ズームレンズの初期化ができない)	ズームレバーを操作した時, ズーム動作をすればレンズブロックのズームリセットセンサ(VC-378基板CN3801 ㉒ピン)を点検。ズーム動作をしなければズームモータドライブ回路(VC-378基板IC3803)を点検。
E	6 1	1 1	フォーカスレンズ初期化異常, ズームレンズ初期化異常の同時発生	フレキシブル基板の切れ, 半挿しを点検。 問題がなければフォーカス, ズームモータドライブ回路(VC-378基板IC3803)を点検。
E	6 2	0 0	手振れ補正が効きにくい (PITCH角速度センサ出力張り付き)	PITCH角速度センサ(SI-042基板SE601)周辺回路点検
E	6 2	0 1	手振れ補正が効きにくい (YAW角速度センサ出力張り付き)	YAW角速度センサ(SI-042基板SE602)周辺回路点検

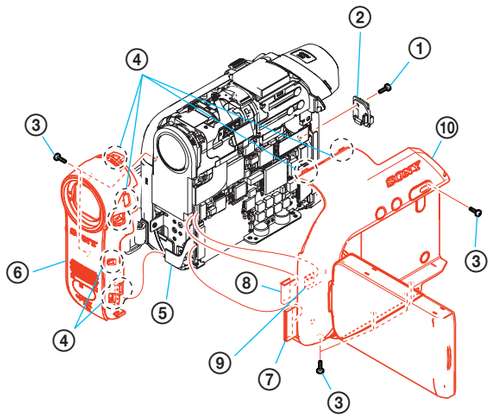
2. DISASSEMBLY

HELP

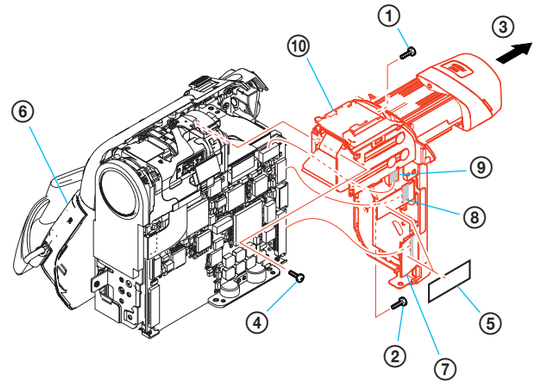
The following flow chart shows the disassembly procedure.

2-1. DISASSEMBLY

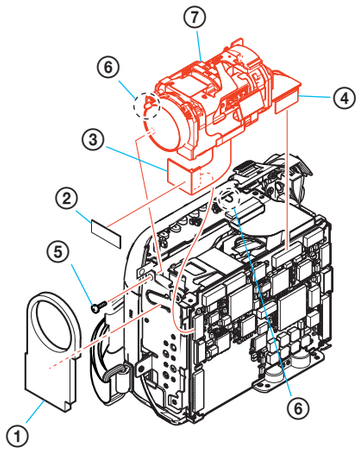




① P2 lock ace screw (M1.7) *x1*
② Cpc lid
③ Screw (M1.7) *x7*
④ Claw *x8*
⑤ Flexible flat cable (FFC-038): CN603
⑥ F panel block
⑦ FP-190 flexible board: CN1003
⑧ FP-185 flexible board: CN1006
⑨ FP-187 flexible board: CN1002
⑩ Cabinet (R) block

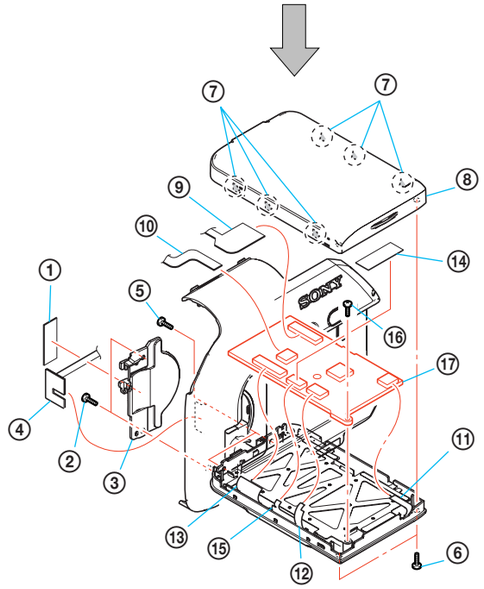


① P2 lock ace screw (M1.7) *x1*
② P2 lock ace screw (M1.7) *x1*
③ Slide the EVF block.
④ P2 tappping screw *x1*
⑤ Tape (A) *x2* HELP
⑥ Open the cabinet (G) block.
⑦ FP-180 flexible board: CN2001
⑧ FP-181 flexible board: CN7001
⑨ FP-184 flexible board: CN1005
⑩ BAT EVF block

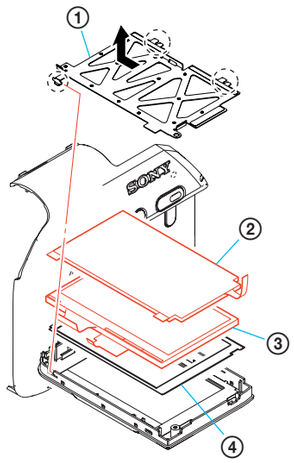


① Cushion (F2)
② Tape (W) *x1*
③ Flexible board: CN 3801
④ FP-179 flexible board: CN3201
⑤ P2 lock ace screw (M1.7) *x1*
⑥ Boss *x2*
⑦ Lens block

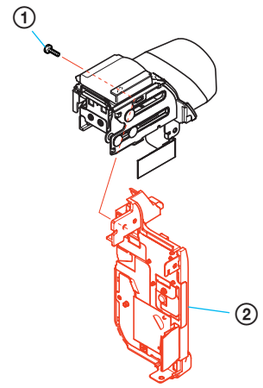
to Page 2-3



① Tape (A) *x1*
② P2 tapping screw *x2*
③ Hinge blind
④ FP-187 flexible board
⑤ Tapping screw *x2*
⑥ P2 tapping screw *x2*
⑦ Claw *x6*
⑧ P cabinet (C (106))
⑨ FP-185 flexible board: CN601
⑩ FP-186 flexible board: CN609
⑪ Flexible board: CN608
⑫ Control key block (SB10600): CN602
⑬ Flexible board: CN605
⑭ Tape (W) *x1*
⑮ Flexible board: CN603
⑯ P2 tapping screw *x1*
⑰ PD-238 board

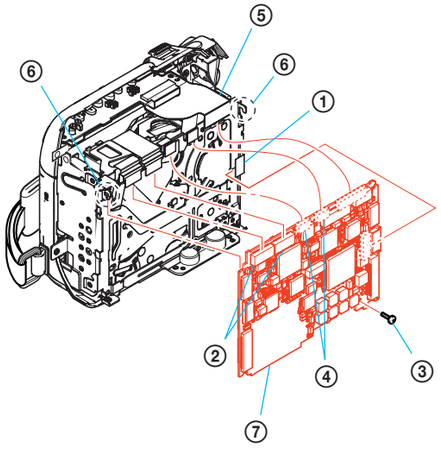


① Slide the CF retainer in the direction of arrow.
② D901
③ LCD901
④ Panel cushion (106)

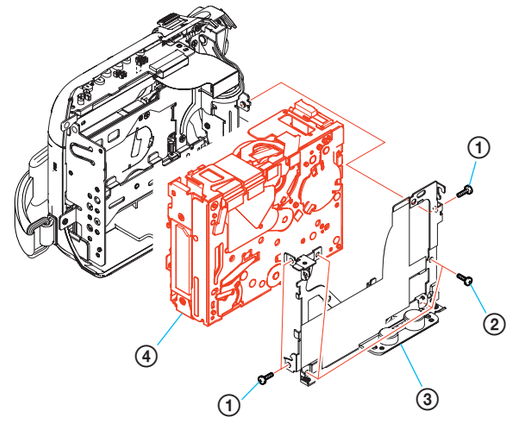


① Screw (M1.7) *x1*
② BT panel block

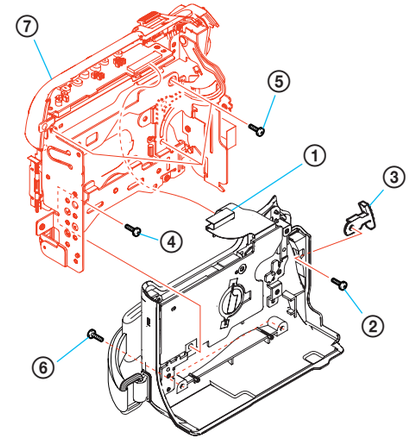
from Page 2-2



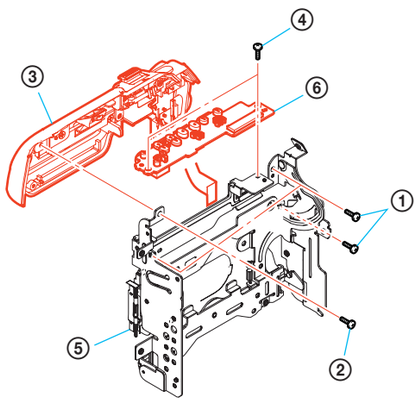
① Flexible board: CN1001
② Connector *x2*: CN6002, 6003
③ P2 lock ace screw (M1.7) *x1*
④ Connector *x2*: CN4301, 6001
⑤ FP-182 flexible board: CN1008
⑥ Hook *x2*
⑦ VC-378 board



① P2 lock ace screw (M1.7) *x3*
② Screw (M1.4x1.5) *x4*
③ MD frame block
④ Mechanism deck

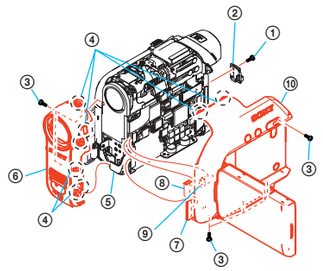


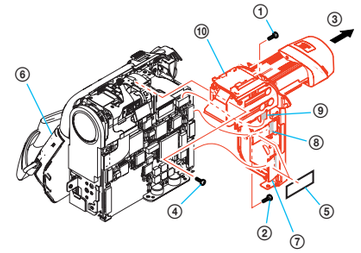
① Flexible board: CN704
② P2 lock ace screw (M1.7) *x1*
③ Eject knob
④ P2 lock ace screw (M1.7) *x1*
⑤ Tapping screw *x3*
⑥ P2 lock ace screw (M1.7) *x2*
⑦ CS block

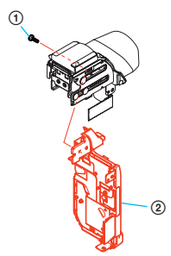


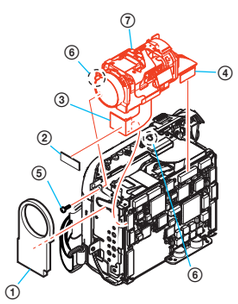
① P2 tapping screw *x3*
② P2 lock ace screw (M1.7) *x1*
③ Control key block (SS10300)
④ P2 lock ace screw (M1.7) *x2*
⑤ CS frame block
⑥ JK-278 board

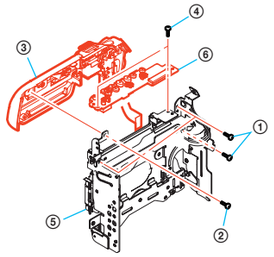
2-2. MECHANISM DECK SERVICE POSITION

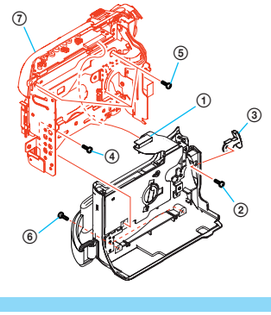


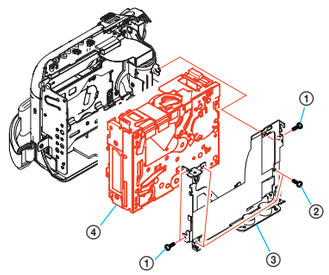


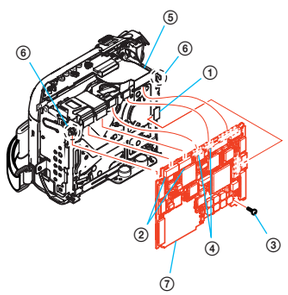












Connection to Check the Mechanism deck

To check the mechanism deck, set the Camera or VTR to the "Forced power ON" mode.
(Or, connect the control key block (SS10300) to the CN1001 of VC-378 board and set the power switch to the "CAMERA" or "PLAY/EDIT" position.)
Operate the VTR function using the adjustment remote commander
(with the HOLD switch set in the OFF position).

Setting the "Forced Camera Power ON" mode

1) Select page: 0, address: 01, and set data: 01.
2) Select page: A, address: 10, set data: 01 and press the PAUSE button of the adjustment remote commander.

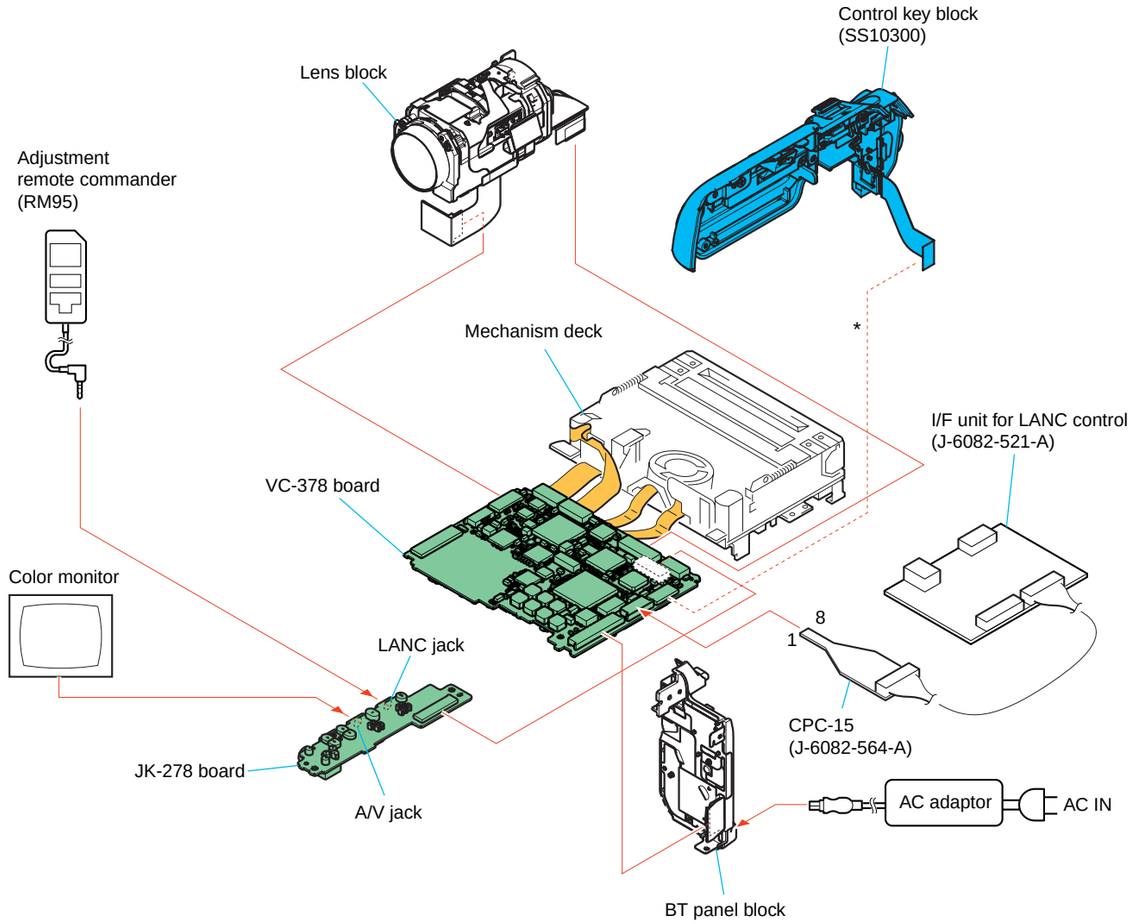
Setting the "Forced VTR Power ON" mode

1) Select page: 0, address: 01, and set data: 01.
2) Select page: A, address: 10, set data: 02 and press the PAUSE button of the adjustment remote commander.

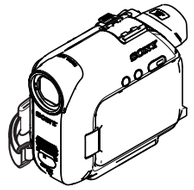
Exiting the "Forced Power ON" mode

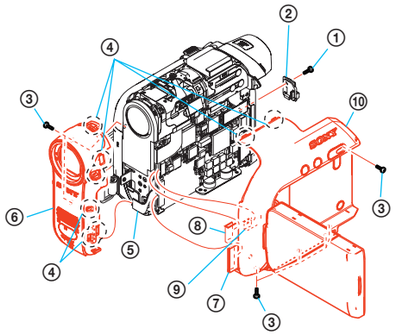
1) Select page: 0, address: 01, and set data: 01.
2) Select page: A, address: 10, data: 00, and press the PAUSE button of the adjustment remote commander.
3) Select page: 0, address: 01, and set data: 00.

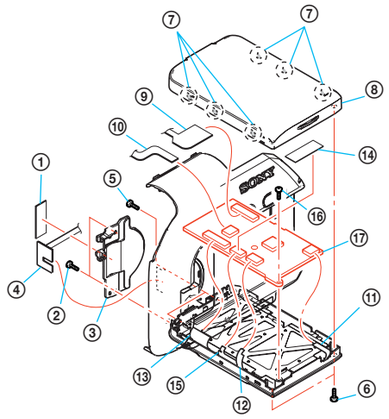
*: To eject a cassette, connect the cabinet (L) block assembly.

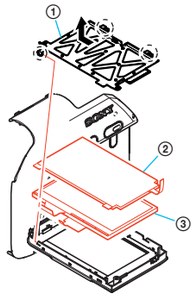


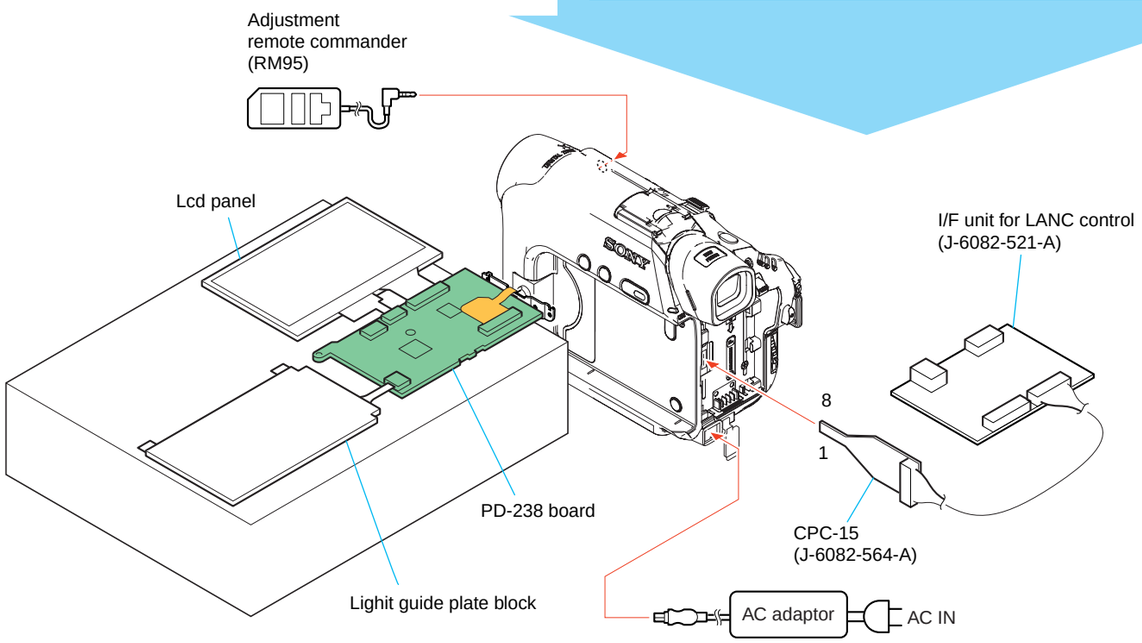
2-3. LCD SERVICE POSITION



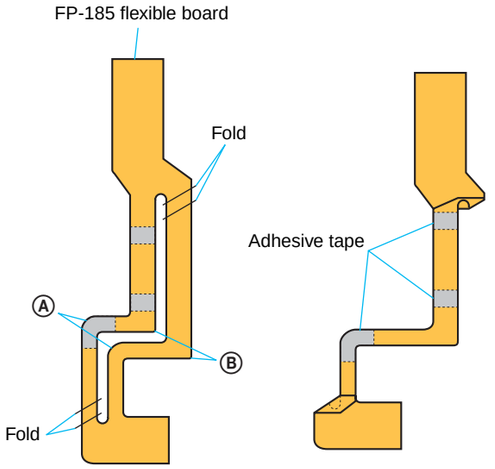






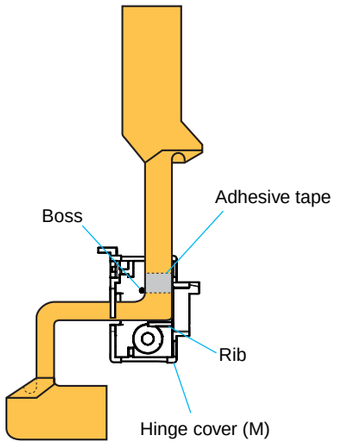


2-4. THE METHOD OF ATTACHMENT OF FP-185 FLEXIBLE BOARD

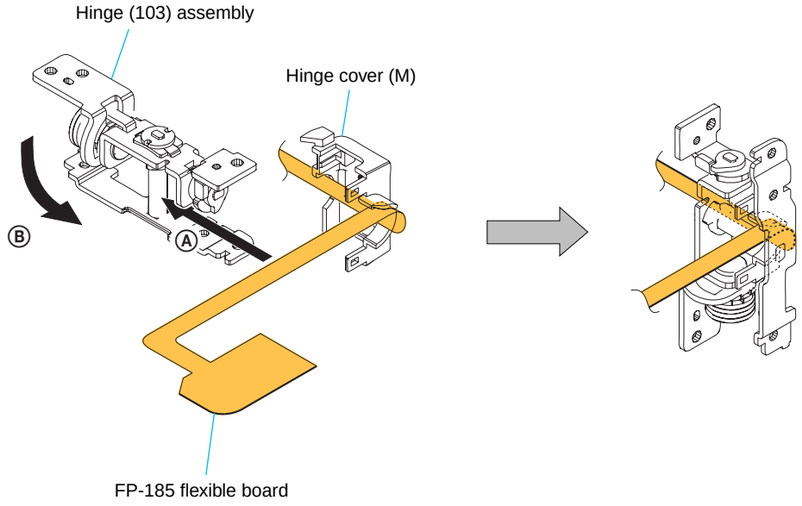


① The Ⓐ and Ⓐ, Ⓑ and Ⓑ section are united and an angle is folded.

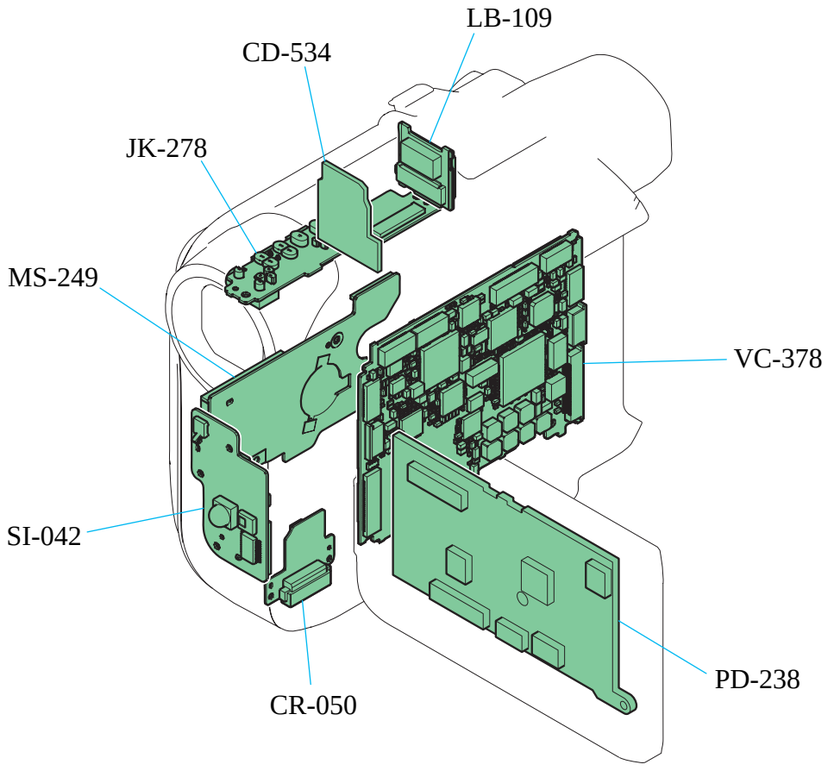
② Set the hinge cover (M) inthe shown below.



③ Set the FP-185 flexible board in the direction of arrow Ⓐ, and then turn the hinge (103) assembly in the direction of arrow Ⓑ.

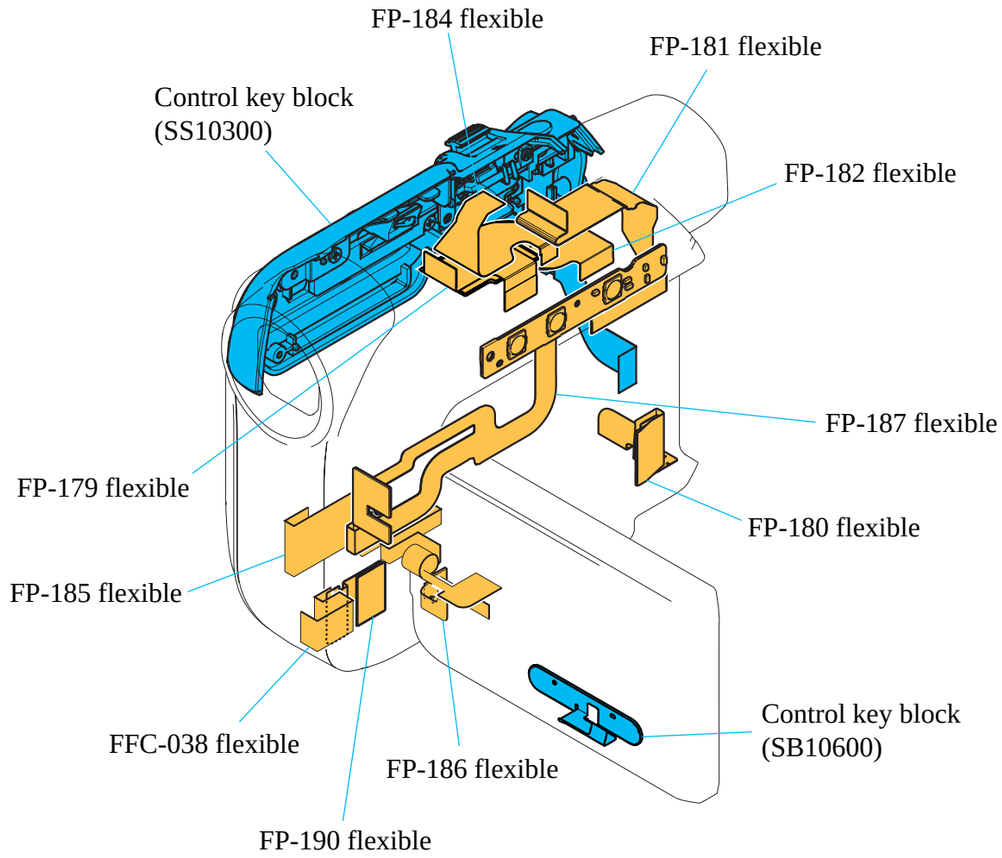


2-5. CIRCUIT BOARDS LOCATION



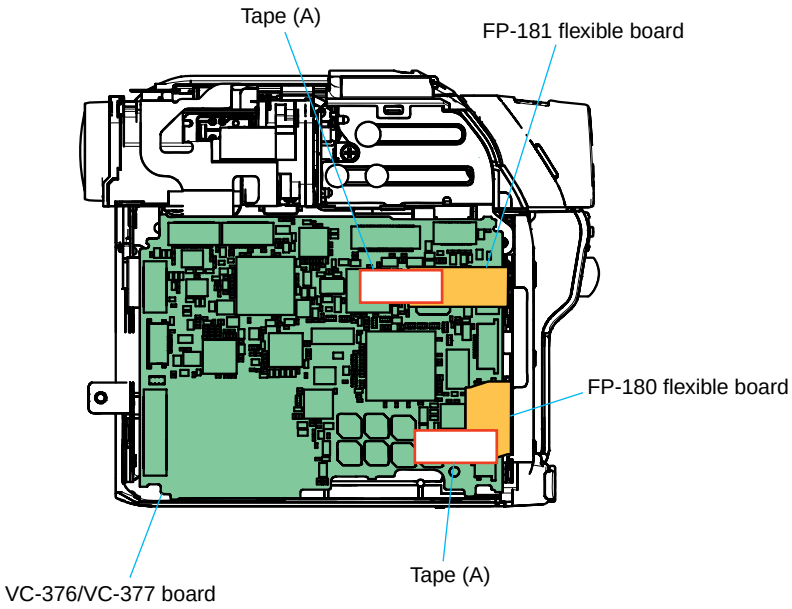
Board Name	Function
CD-534	CCD IMAGER
CR-050	CRADLE TERMINAL
JK-278	JACK
LB-109	EVF, EVF BACKLIGHT
MS-249	MS CONNECTOR
PD-238	LCD DRIVE, BACKLIGHT DRIVE
SI-042	REMOTE COMMANDER RECEIVER, PITCH/YAW SENSOR
VC-378	A/D CONVERTER, TIMING GENERATOR, LENS DRIVE, CAMERA SIGNAL PROCESS, VIDEO/AUDIO DSP, DS/HI CONTROL, FLASH, SDRAM, DV SIGNAL PROCESS, DV INTERFACE, REC/PB AMP, ASPECT RATIO CONVERTER, VIDEO, AUDIO I/O, MIC AMP, EVF DRIVE, CAMERA/MECHA CONTROL, SERVO, HI CONTROL, DC IN, DC/DC CONVERTER, CONNECTOR

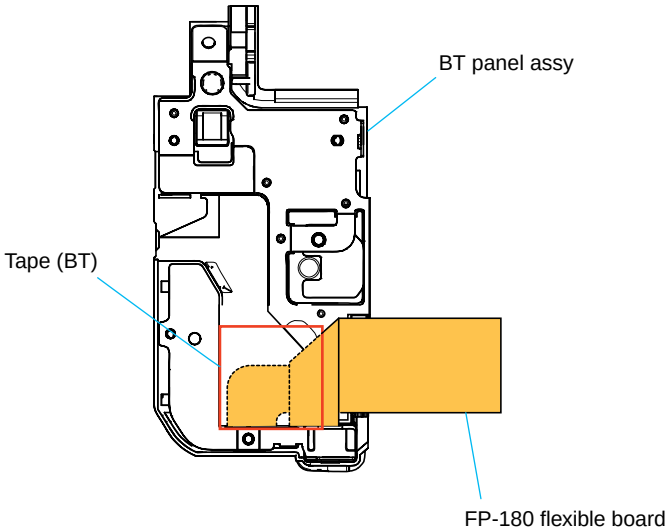
2-6. FLEXIBLE BOARDS LOCATION



HELP

Sheet attachment positions and procedures of processing the flexible boards/harnesses are shown.





3. BLOCK DIAGRAMS

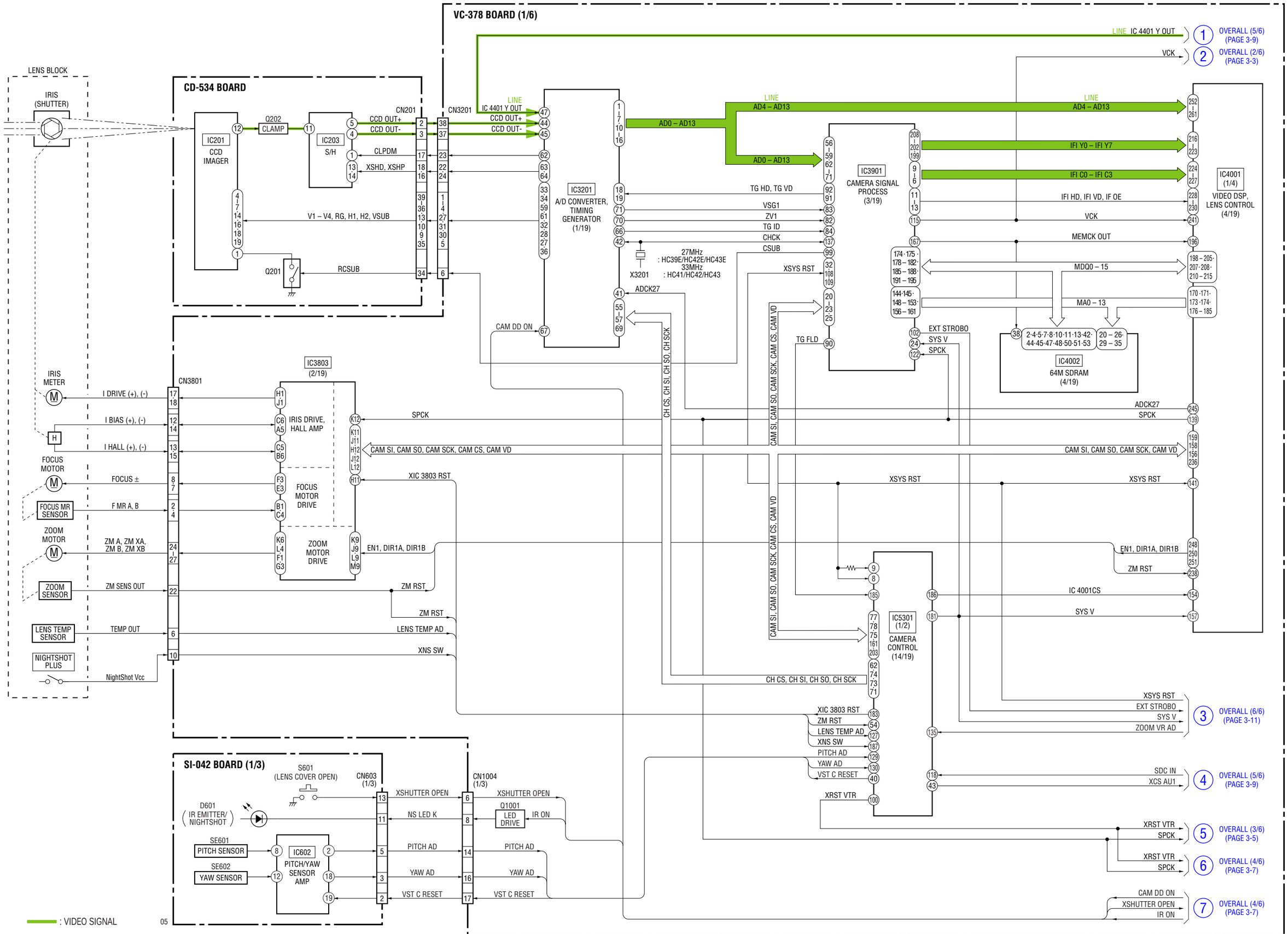
Link

OVERALL BLOCK DIAGRAM (1/6)	OVERALL BLOCK DIAGRAM (6/6)
OVERALL BLOCK DIAGRAM (2/6)	POWER BLOCK DIAGRAM (1/3)
OVERALL BLOCK DIAGRAM (3/6)	POWER BLOCK DIAGRAM (2/3)
OVERALL BLOCK DIAGRAM (4/6)	POWER BLOCK DIAGRAM (3/3)
OVERALL BLOCK DIAGRAM (5/6)	

3. BLOCK DIAGRAMS

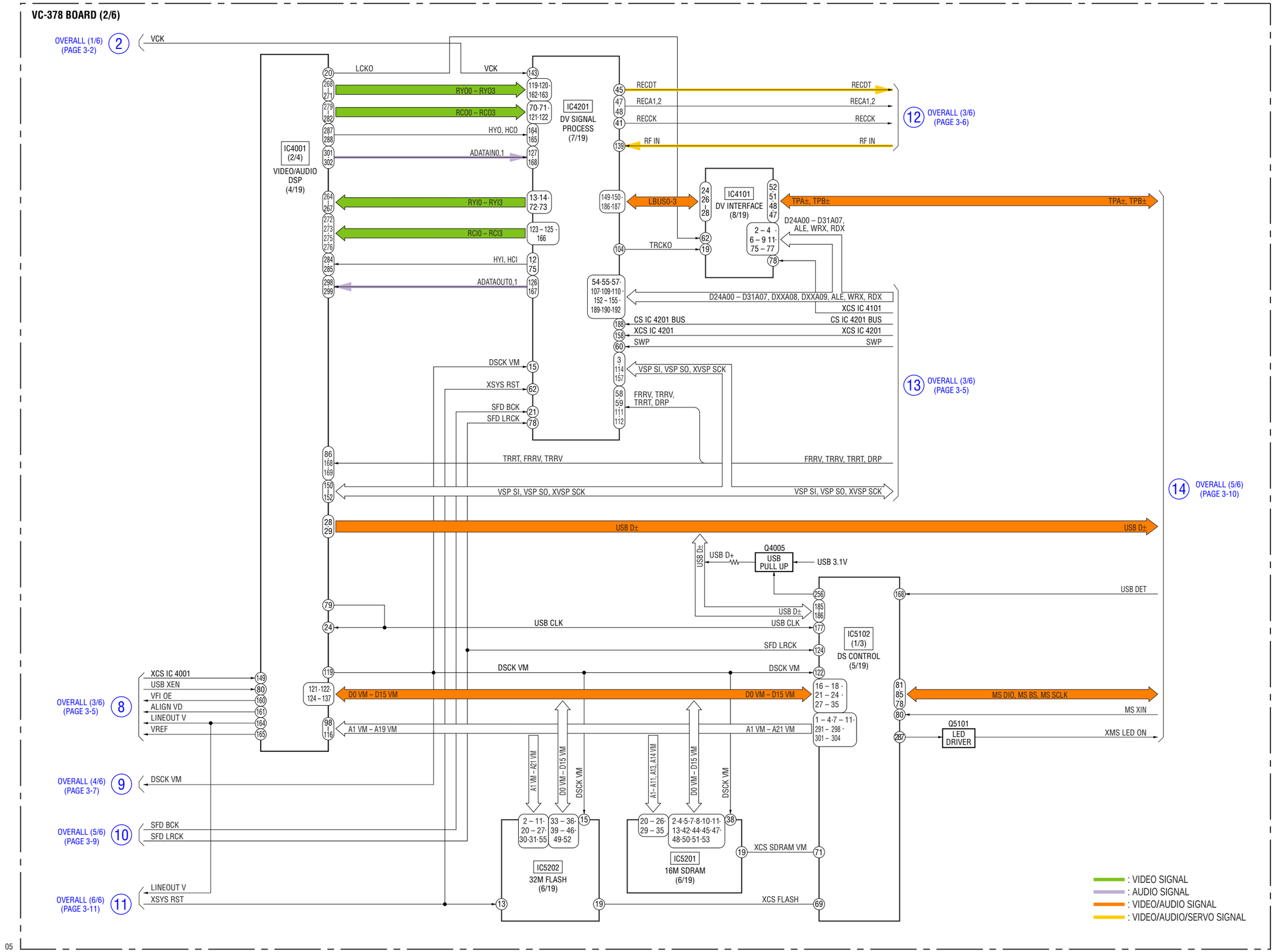
3-1. OVERALL BLOCK DIAGRAM (1/6)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



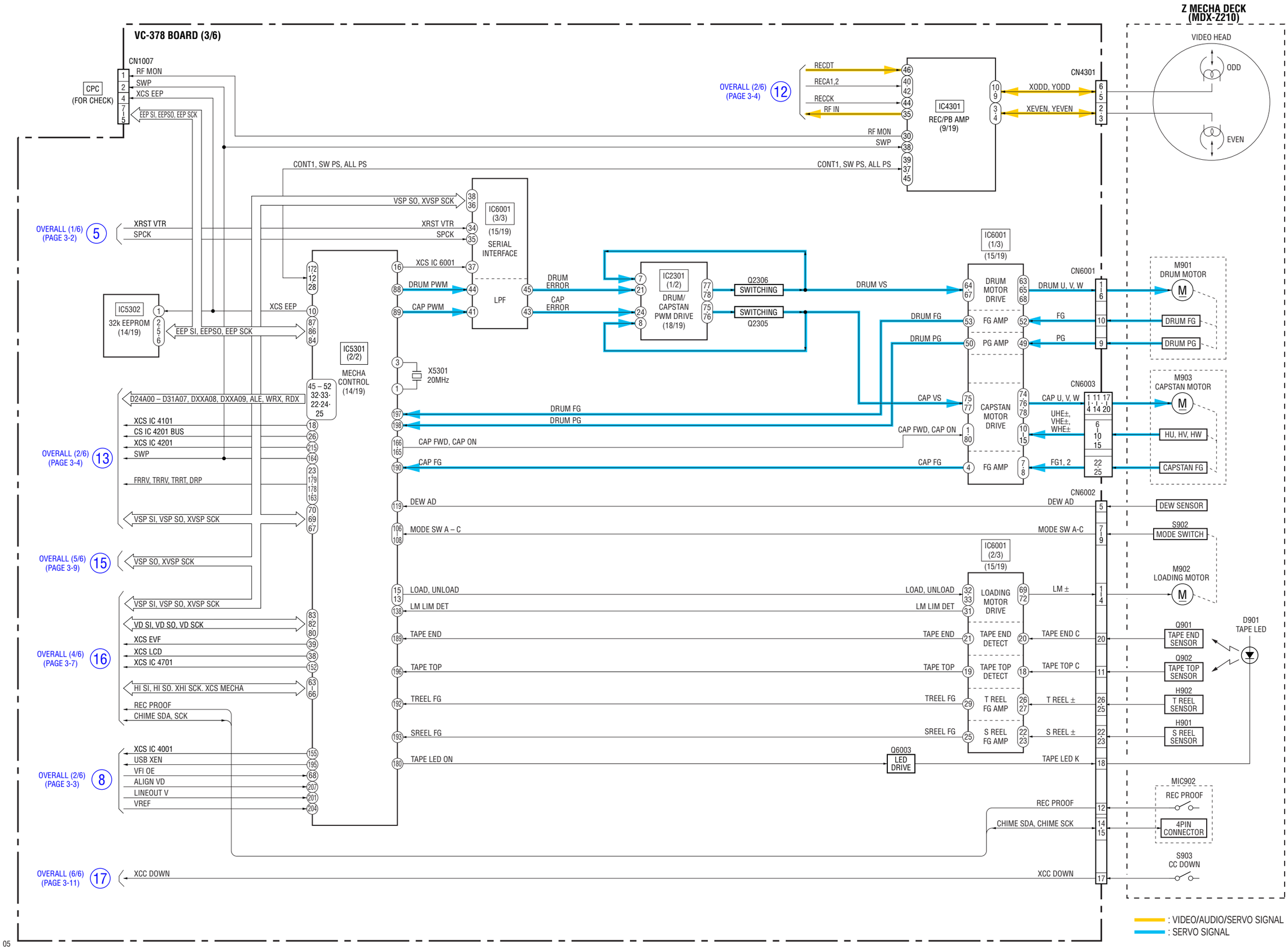
3-2. OVERALL BLOCK DIAGRAM (2/6)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.

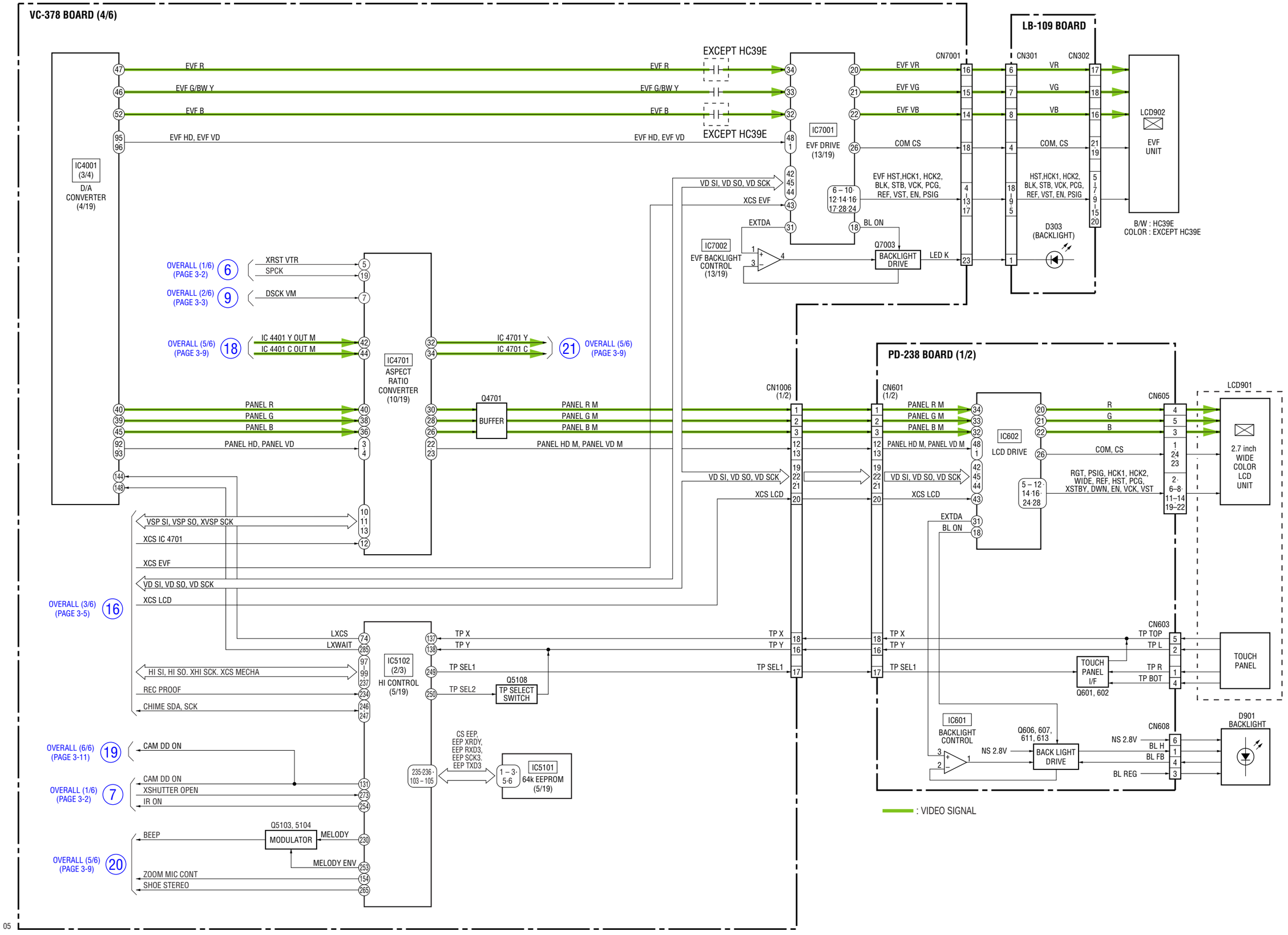


3-3. OVERALL BLOCK DIAGRAM (3/6)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.

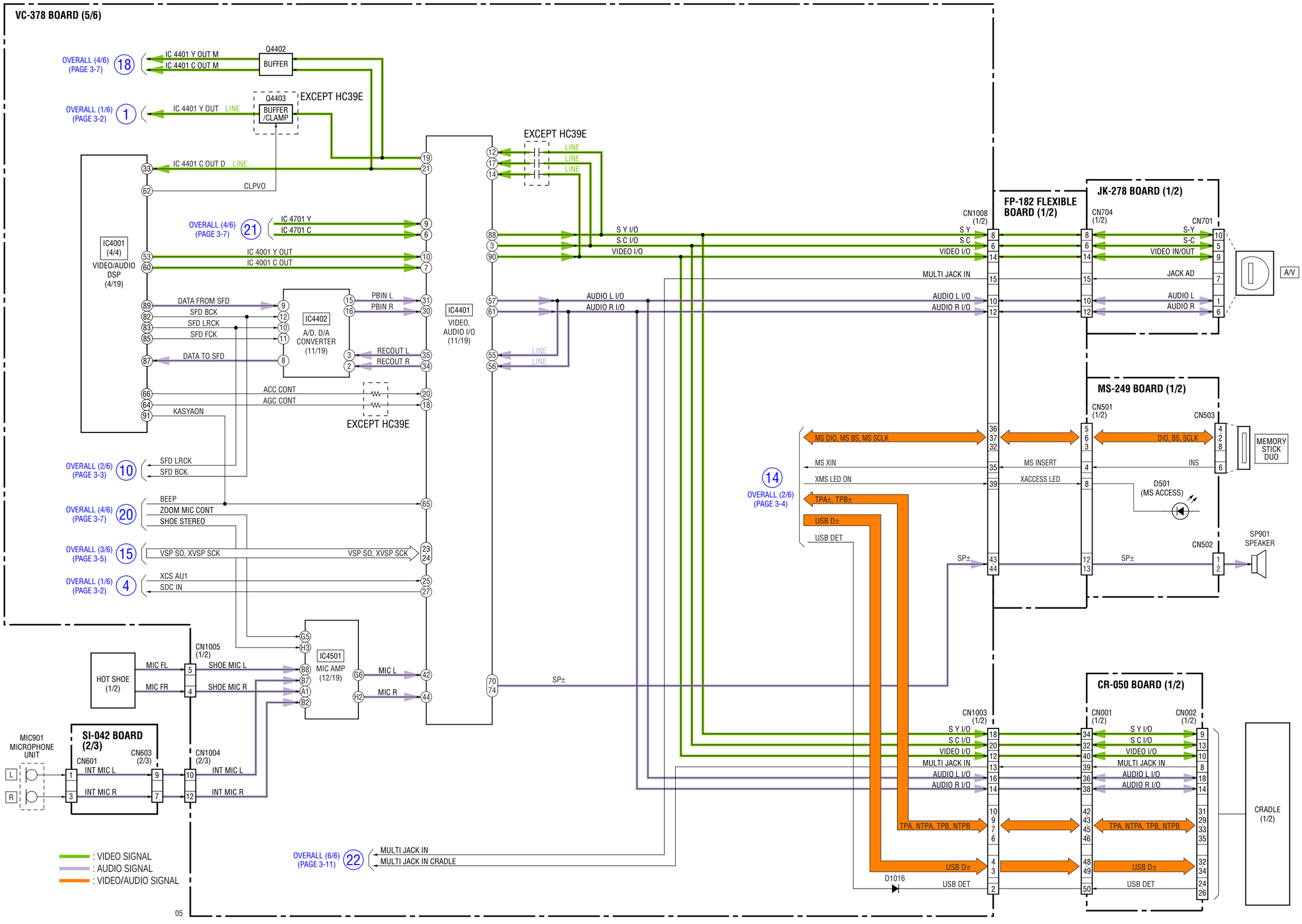


3-4. OVERALL BLOCK DIAGRAM (4/6) ( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.

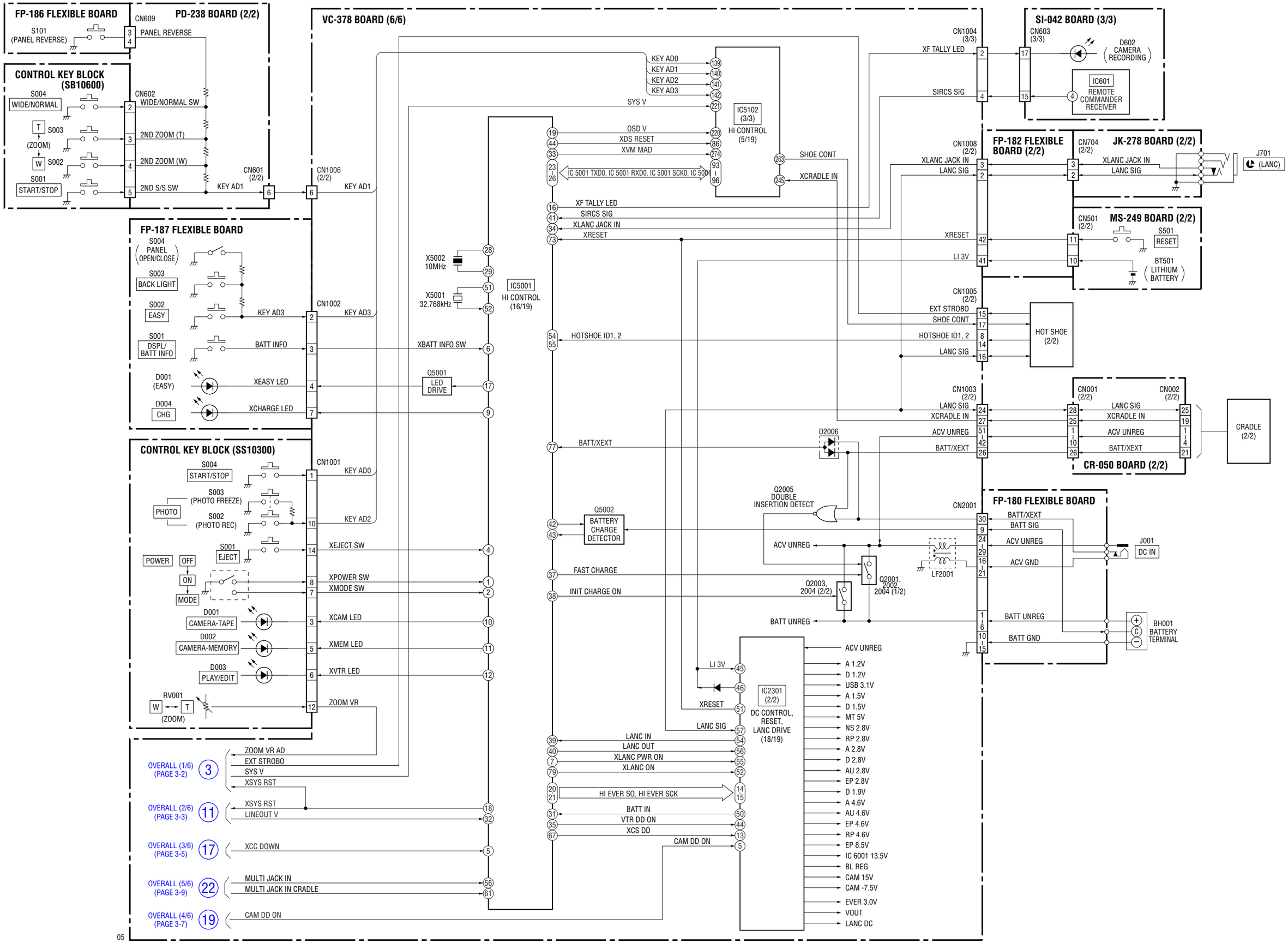


3-5. OVERALL BLOCK DIAGRAM (5/6)

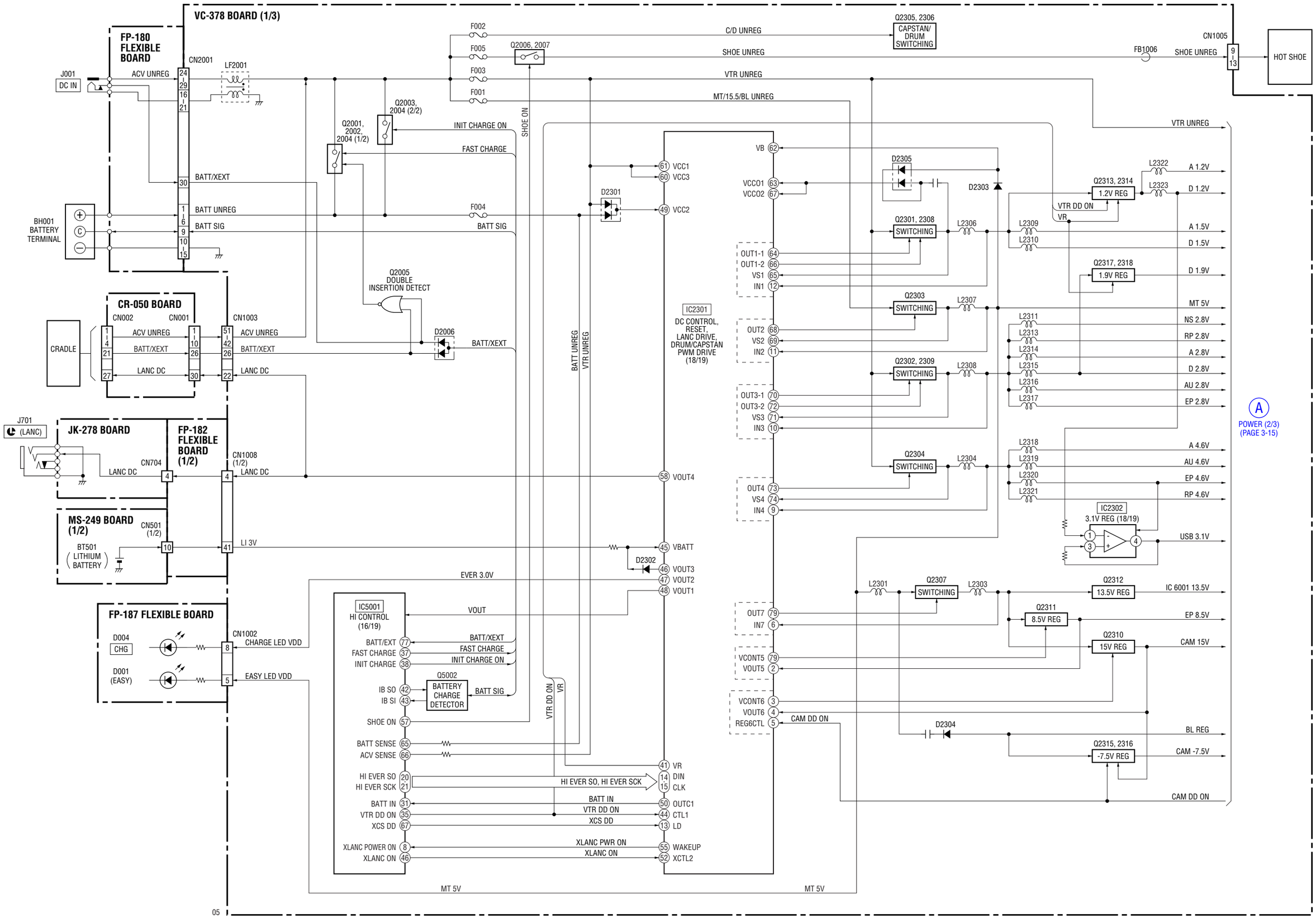
( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



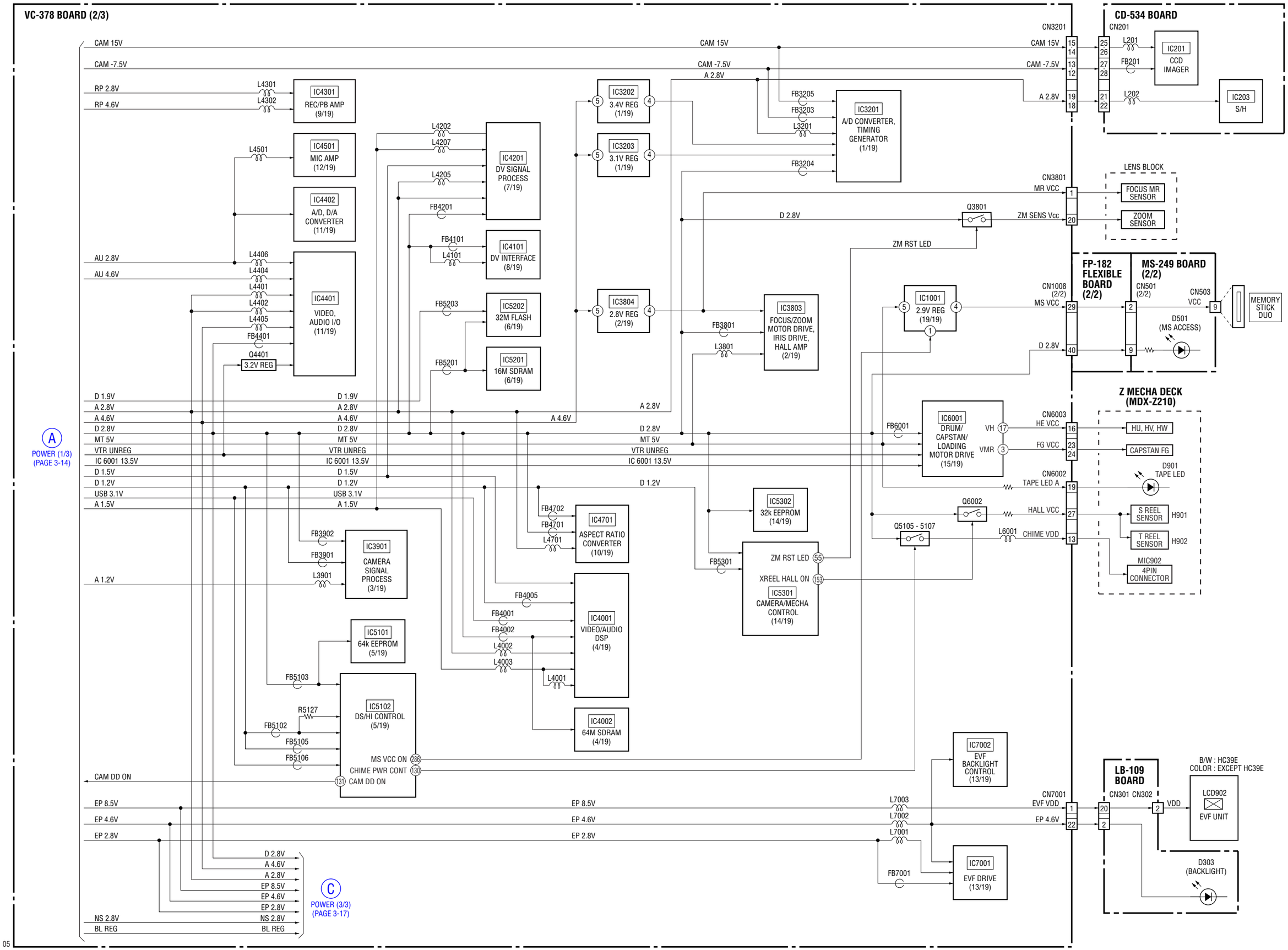
3-6. OVERALL BLOCK DIAGRAM (6/6) ( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



3-7. POWER BLOCK DIAGRAM (1/3) ( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.

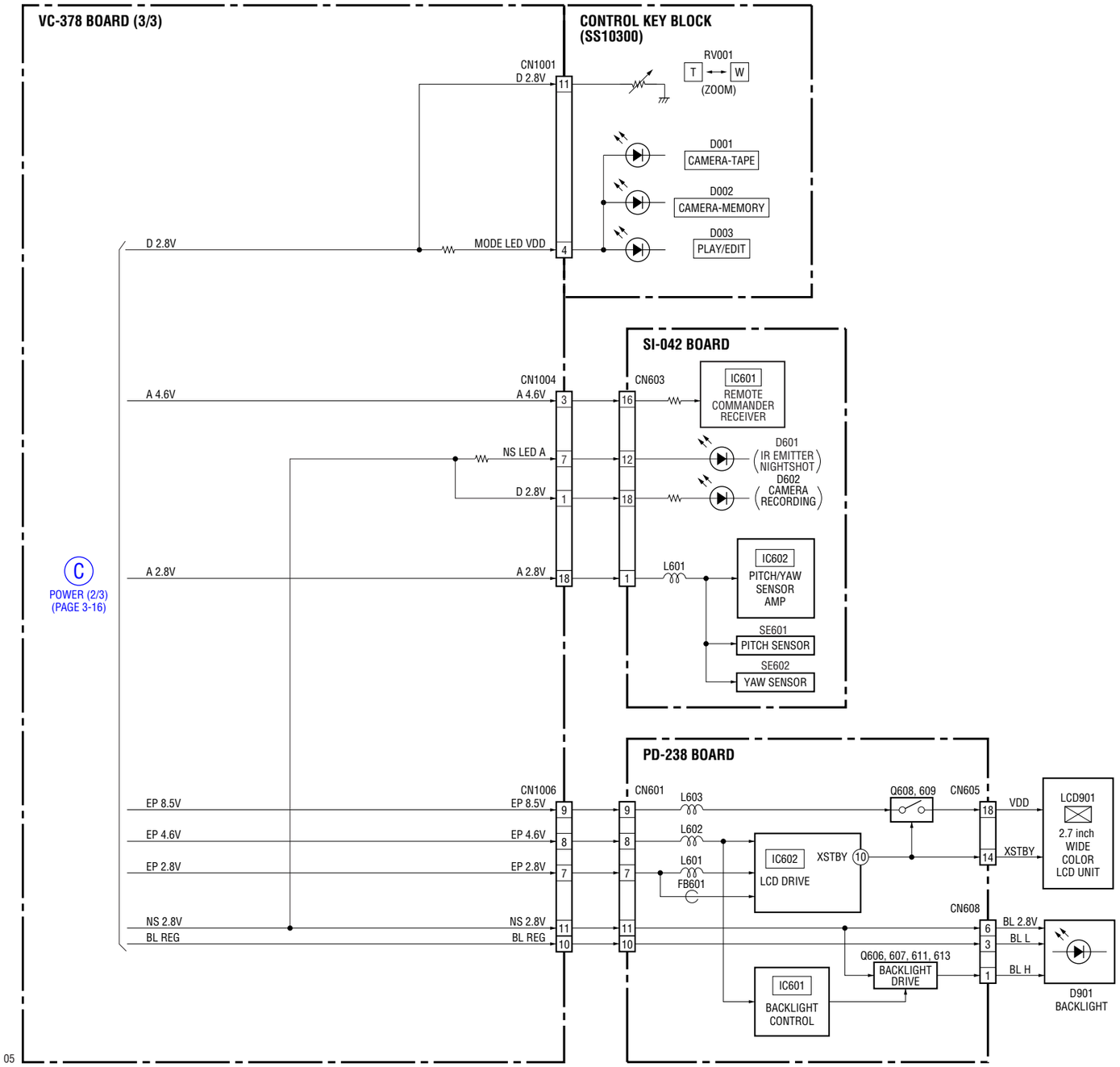


3-8. POWER BLOCK DIAGRAM (2/3) ( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.

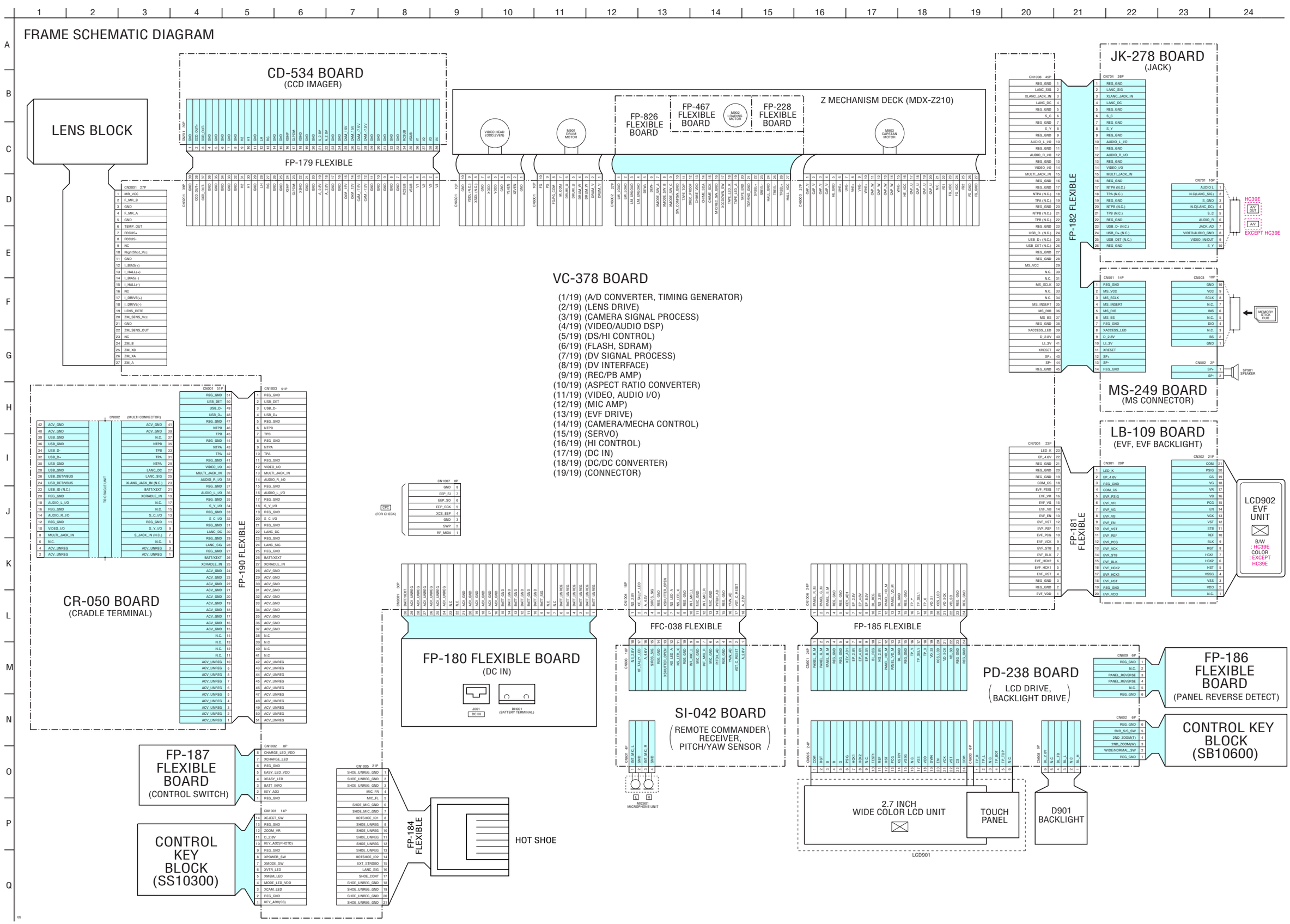


3-9. POWER BLOCK DIAGRAM (3/3)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



4-1. FRAME SCHEMATIC DIAGRAM



4-2. SCHEMATIC DIAGRAMS

Link

CD-534 BOARD (CCD IMAGER)	LB-109 BOARD (EVF, EVF BACKLIGHT)
PD-238 BOARD (LCD DRIVE, BACKLIGHT DRIVE)	FP-186 FLEXIBLE BOARD (PANEL REVERSE DETECT)
CR-050 BOARD (CRADLE TERMINAL)	FP-180 FLEXIBLE BOARD (DC IN)
SI-042 BOARD (REMOTE COMMANDER RECEIVER, PITCH/YAW SENSOR)	FP-187 FLEXIBLE BOARD (CONTROL SWITCH)
FP-182 FLEXIBLE BOARD	FP-826, FP-467, FP-228 FLEXIBLE BOARD
JK-278 BOARD (JACK)	CONTROL KEY BLOCK (SS10300)
MS-249 BOARD (MS CONNECTOR)	CONTROL KEY BLOCK (SB10600)

COMMON NOTE FOR SCHEMATIC DIAGRAMS	WAVEFORMS

4-2. SCHEMATIC DIAGRAMS (ENGLISH)

THIS NOTE IS COMMON FOR SCHEMATIC DIAGRAMS
(In addition to this, the necessary note is printed in each block)

(For schematic diagrams)

- All capacitors are in μF unless otherwise noted. pF : μμF. 50 V or less are not indicated except for electrolytics and tantalums.
- Chip resistors are 1/10 W unless otherwise noted. kΩ=1000 Ω, MΩ=1000 kΩ.
- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minus side of tantalum capacitor, Because it is damaged by the heat.
- Some chip part will be indicated as follows.

  Example C541 L452
  22U 10UH
  TA A 2520
  Kinds of capacitor / Case size — External dimensions (mm)
- Constants of resistors, capacitors, ICs and etc with XX indicate that they are not used.
  In such cases, the unused circuits may be indicated.
- Parts with ★ differ according to the model/destination.
  Refer to the mount table for each function.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Signal name
  XEDIT → $\overline{\text{EDIT}}$ PB/XREC → PB/$\overline{\text{REC}}$
- : non flammable resistor
- : fusible resistor
- : panel designation
- : B+ Line
- : B– Line
- : IN/OUT direction of (+,–) B LINE.
- : adjustment for repair.
- : not use circuit
- Circled numbers refer to waveforms.

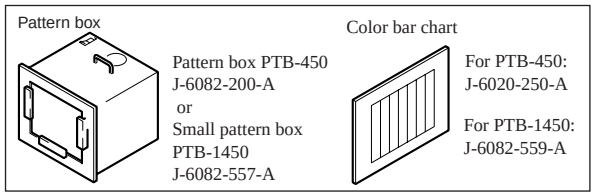
(Measuring conditions voltage and waveform)

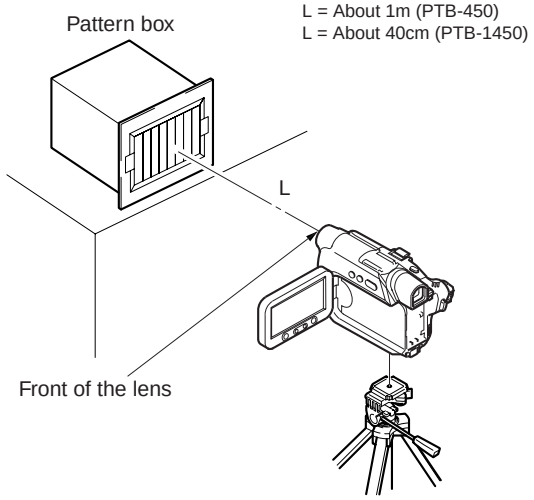
- Voltages and waveforms are measured between the measurement points and ground when camera shoots color bar chart of pattern box. They are reference values and reference waveforms.
  (VOM of DC 10 MΩ input impedance is used)
- Voltage values change depending upon input impedance of VOM used.)

Precautions for Replacement of CCD Imager

- The CD-534 board mounted as a repair part is not equipped with a CCD imager.
  When replacing this board, remove the CCD imager from the old one and mount it onto the new one.
- If the CCD imager has been replaced, carry out all the adjustments for the camera section.
- As the CCD imager may be damaged by static electricity from its structure, handle it carefully like for the MOS IC. In addition, ensure that the receiver is not covered with dusts nor exposed to strong light.

1. Connection





2. Adjust the distance so that the output waveform of Fig. a and the Fig. b can be obtain.

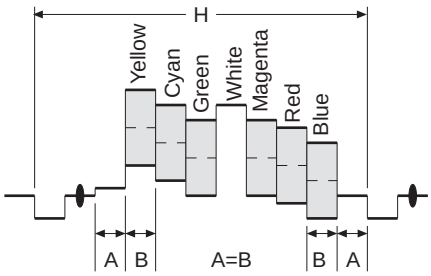


Fig. a (Video output terminal output waveform)

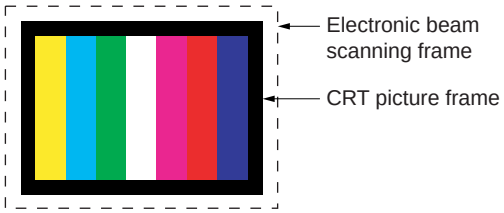


Fig.b (Picture on monitor TV)

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifie.

(JAPANESE)

回路図共通ノート
（他に必要なノートは各ブロックに記載してあります）
【回路図ノート】

・ケミコン，タンタルを除くコンデンサで，耐圧50V以下のものはその耐圧を省略。単位はすべてμF（pはpF）。
・チップ抵抗で指示のないものは，1／10W以下。
kΩ＝1000Ω，MΩ＝1000kΩ
・チップ部品交換時の注意
取り外した部品は再使用せず，未使用の部品をご使用ください。
タンタルコンデンサのマイナス側は熱に弱いため注意してください。
・チップ部品には下記のように表示したものがあります。

例	C 541	L 452
	22U	10UH
	TA　A	2520
	↑　↑	↑
	種類　ケースサイズ	外形寸法（mm）

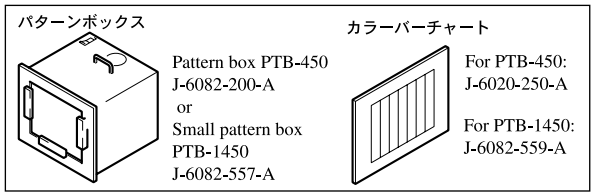
・抵抗，コンデンサ，ICなど定数にXXがあるものは，使用していない事を示しています。このため，使用していない回路が記載されている事があります。
・★印のある部品は，機種などにより異なりますので機能別マウントー覧表を参照してください。
・可変抵抗と半固定抵抗で，B特性の表示を省略。
・信号名表記について，下記のような場合があります。
XEDIT → $\overline{\text{EDIT}}$　　PB/XREC → PB/$\overline{\text{REC}}$
・ は不燃性抵抗。
・ はヒューズ抵抗。
・ はパネル表示名称。
・ はB＋ライン。
・ はB－ライン。
・はBライン（＋，－）の入出力方向を示す。
・ は調整名称。
・ は未使用回路。
・○番号は，波形図の照合番号。

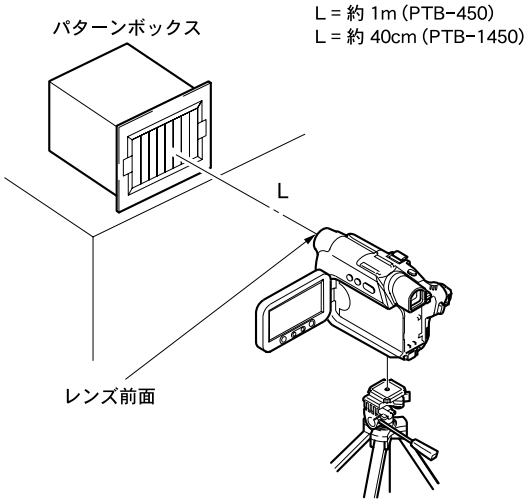
【電圧・波形測定条件ノート】

・電圧値及び信号波形はパターンボックスのカラーバーチャートを被写体としたときの測定点対アース間の参考値。
（デジタルマルチメータ；入力インピーダンス　DC10MΩ使用）
・使用テスタの入力インピーダンスにより電圧値が多少異なります。

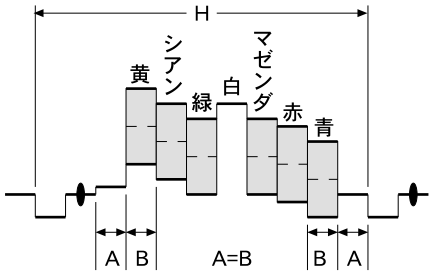
CCD イメージャ交換時の注意
・補修部品として供給されるCD-534基板には，CCDイメージャがマウントされていません。CD-534基板を交換するときは，旧基板よりCCDイメージャを外し，新基板へ再度取り付けて下さい。
・CCDイメージャを交換した場合は，カメラ部の全調整を行ってください。
・CCDイメージャは構造上，静電気により破壊される恐れがあるため，MOS ICと同様に注意して取り扱ってください。
また，受光部にはゴミの付着，および強い光がはいることのないように注意してください。

1. 接続図

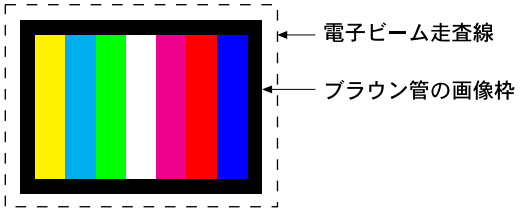




2. 図a及び図bの波形が得られるように画枠調整して下さい。



図a（映像入出力端子出力波形）



図b（テレビモニタの映像）

⚠印の部品，または⚠印付きの点線で囲まれた部品は，安全性を維持するために重要な部品です。
従って交換時は，必ず指定の部品を使用して下さい。

お願い
図面番号で部品を指定するときは基板名又はブロックを併せて指定して下さい。

For Schematic Diagram
• Refer to page 4-65 for printed wiring board.

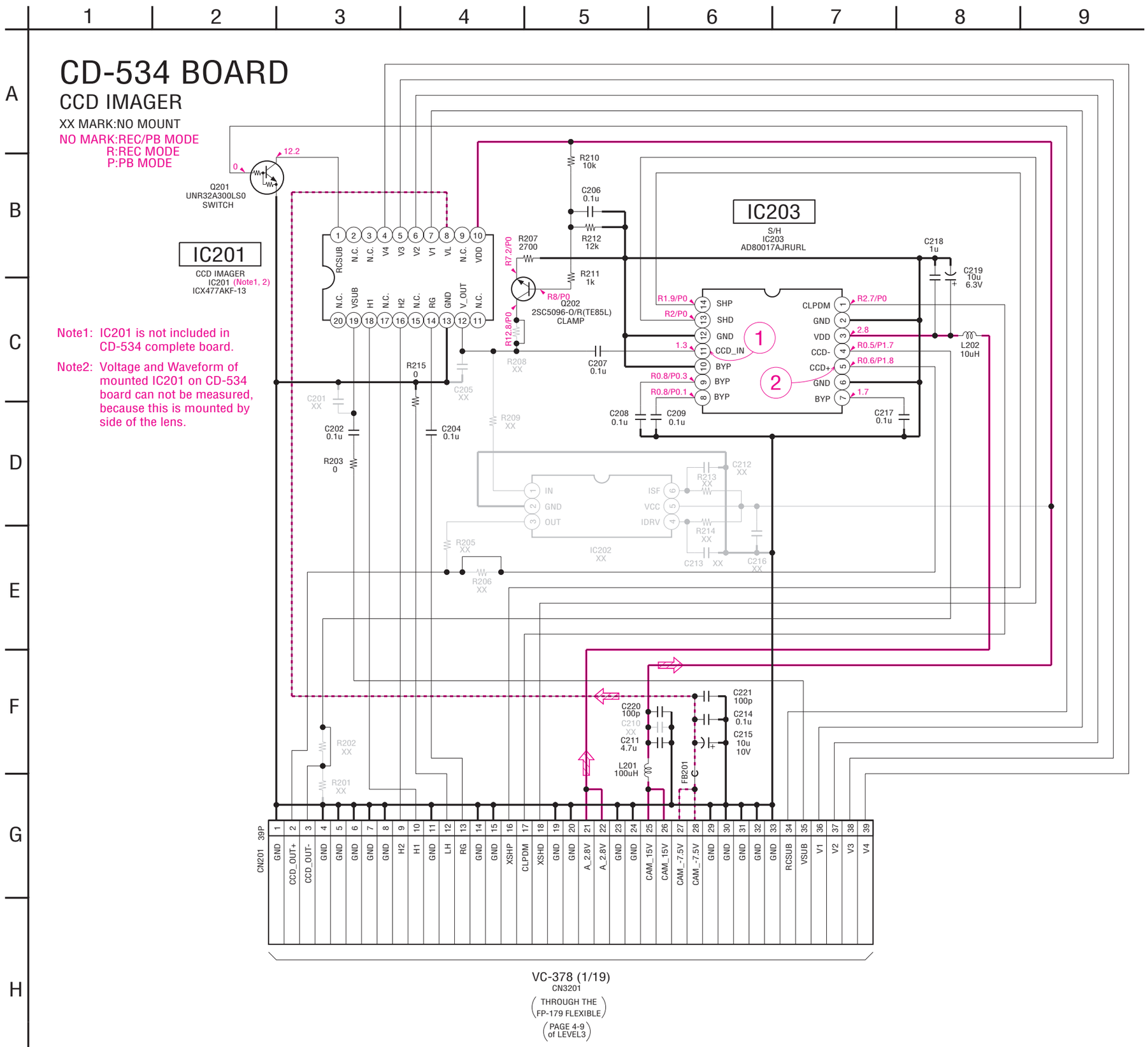
CD-534 BOARD

CCD IMAGER

XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R:REC MODE
P:PB MODE

Note1: IC201 is not included in CD-534 complete board.

Note2: Voltage and Waveform of mounted IC201 on CD-534 board can not be measured, because this is mounted by side of the lens.



Schematic diagrams of the VC-378 board are not shown.
Pages from 4-9 to 4-46 are not shown.

For Schematic Diagram

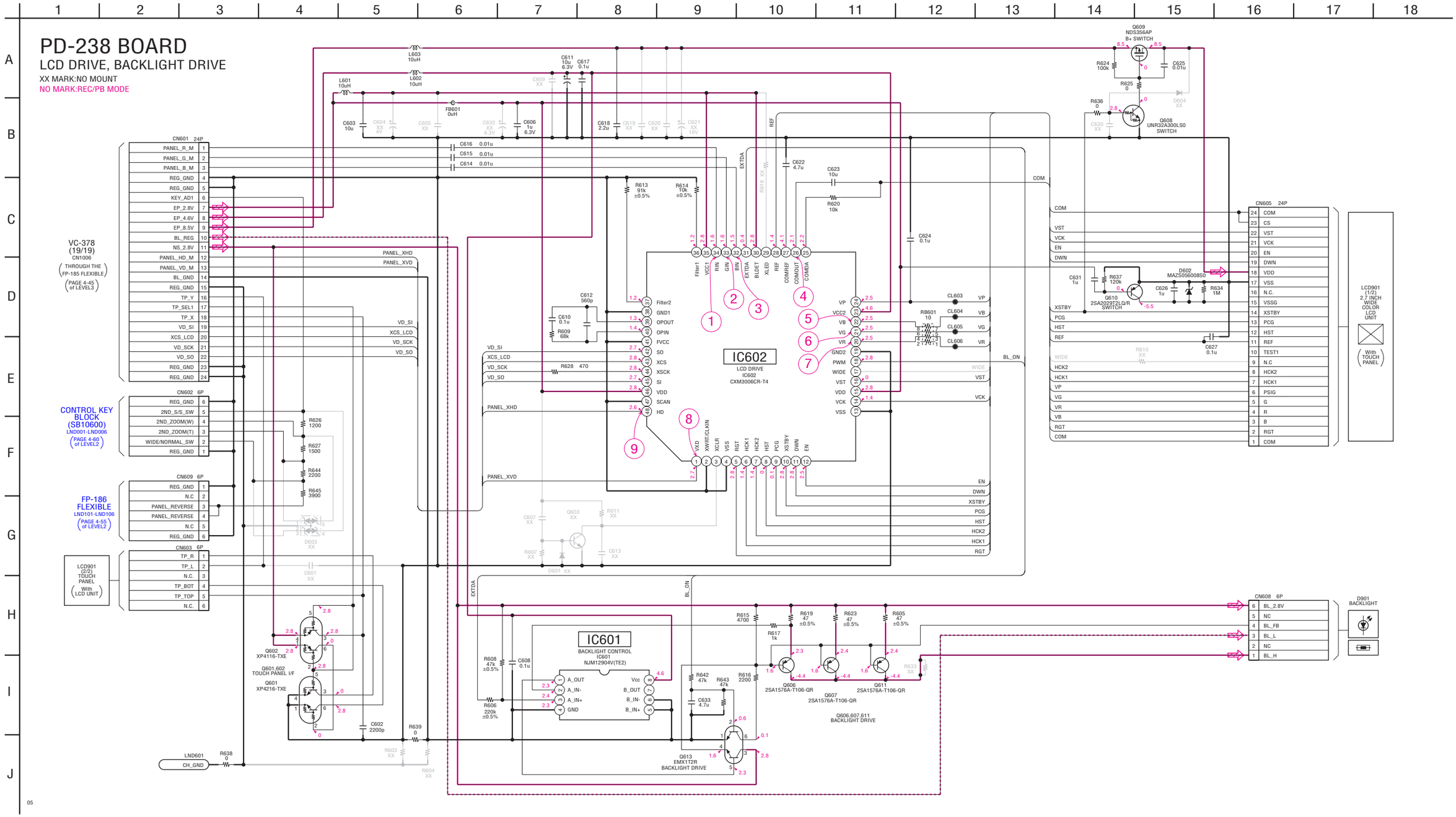
• Refer to page 4-71 for printed wiring board.

PD-238 BOARD

LCD DRIVE, BACKLIGHT DRIVE

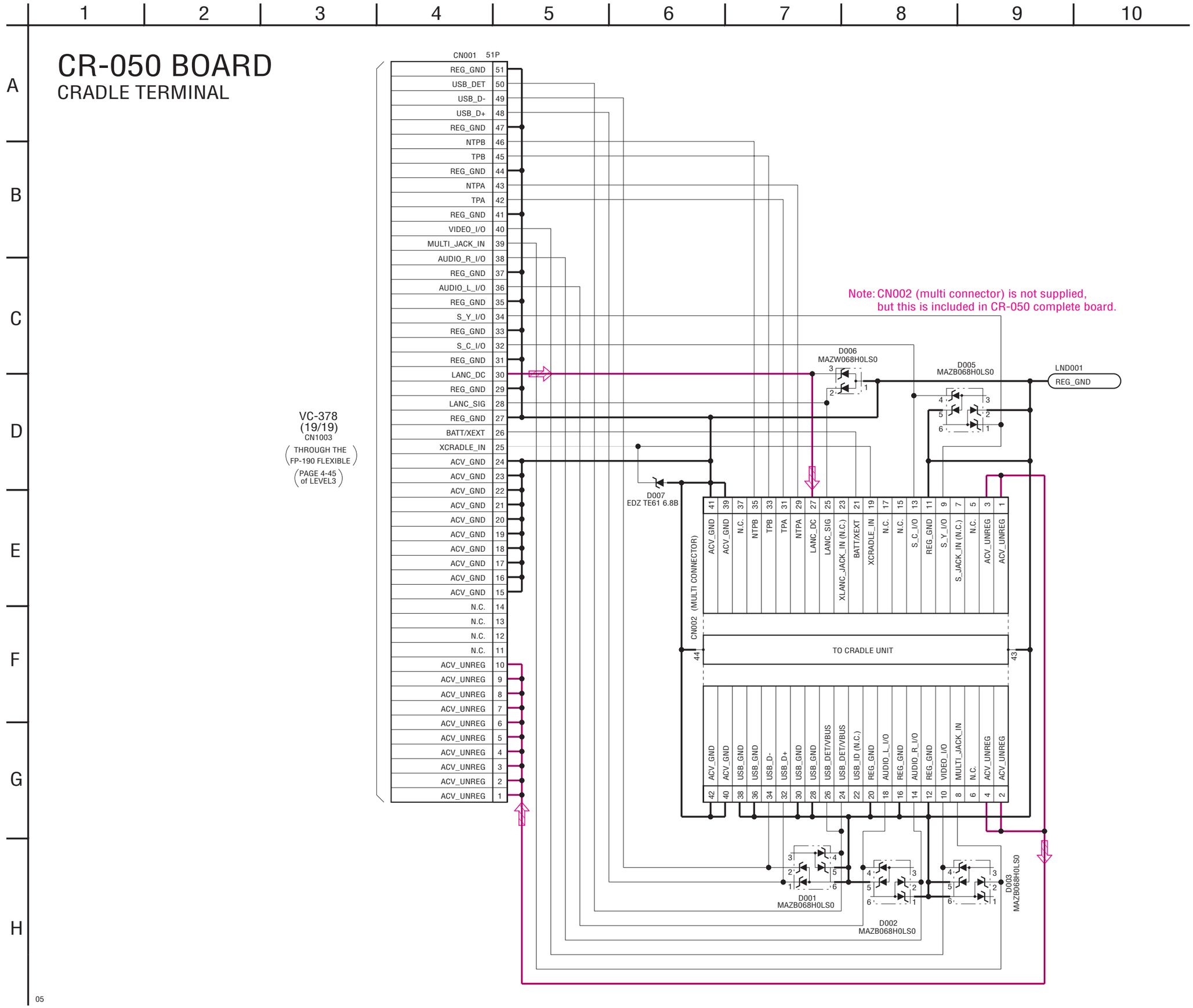
XX MARK:NO MOUNT

NO MARK:REC/PB MODE



For Schematic Diagram
• Refer to page 4-73 for printed wiring board.

CR-050 BOARD
CRADLE TERMINAL

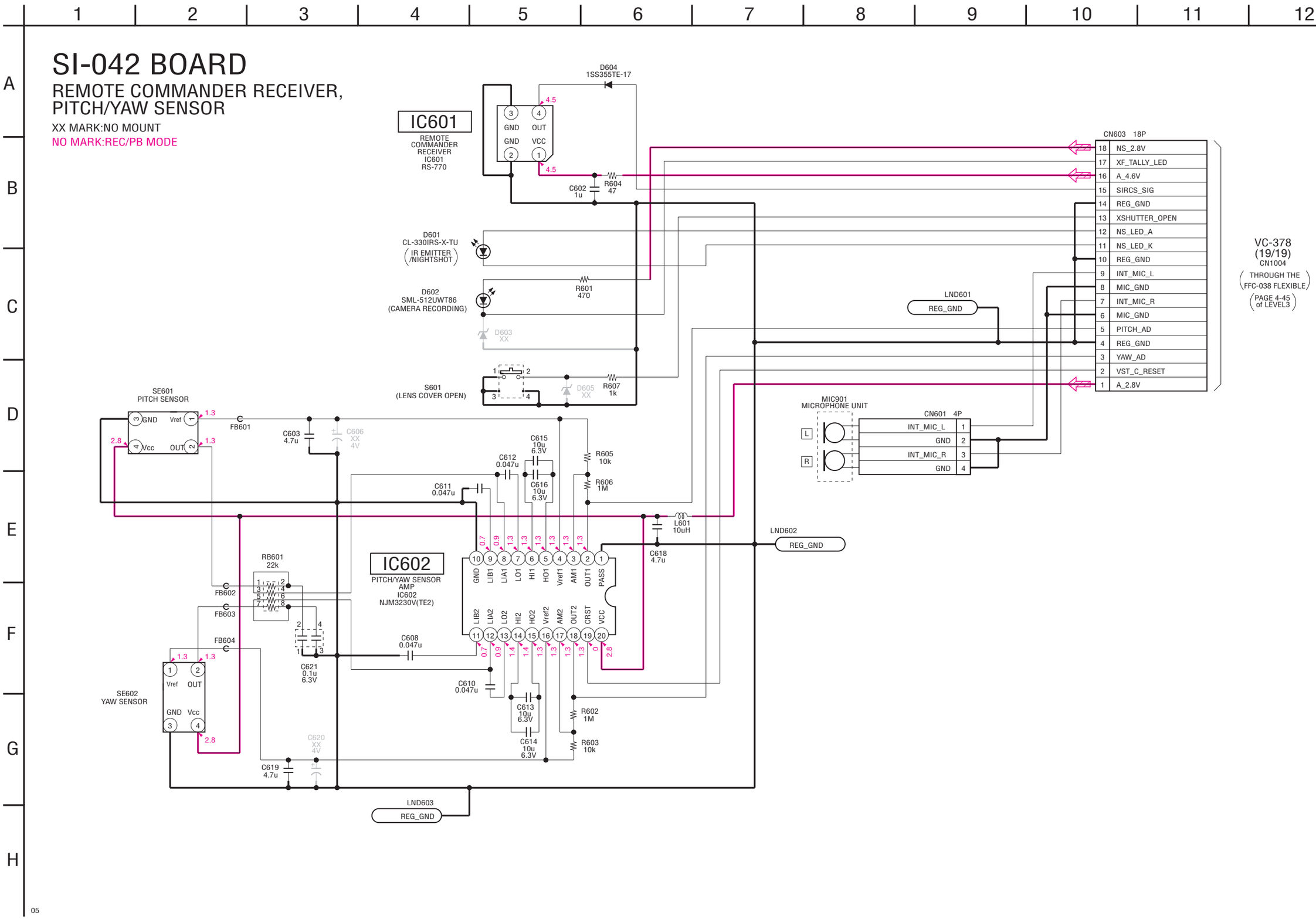


For Schematic Diagram
• Refer to page 4-74 for printed wiring board.

SI-042 BOARD

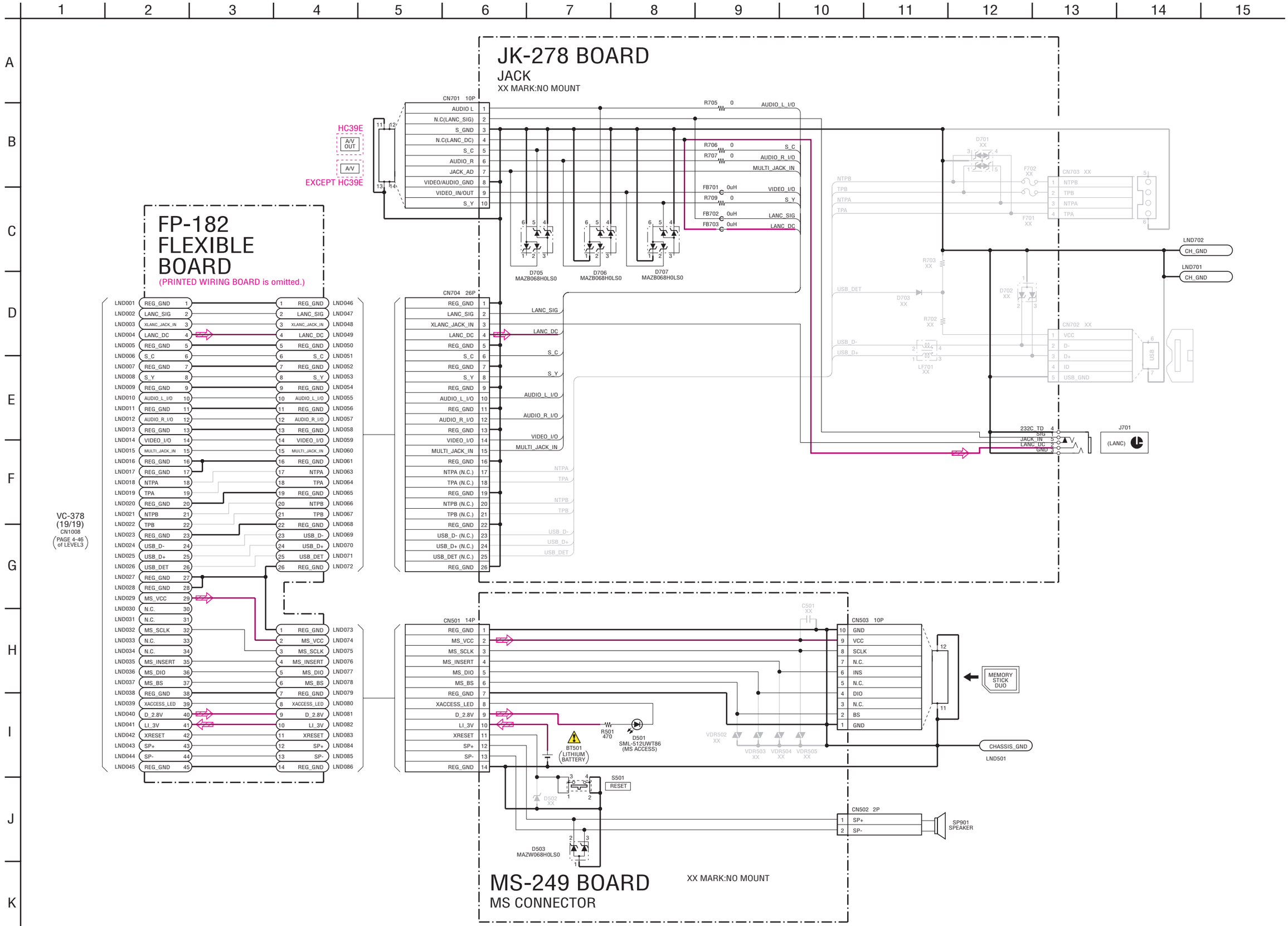
REMOTE COMMANDER RECEIVER, PITCH/YAW SENSOR

XX MARK:NO MOUNT
NO MARK:REC/PB MODE



For Schematic Diagram

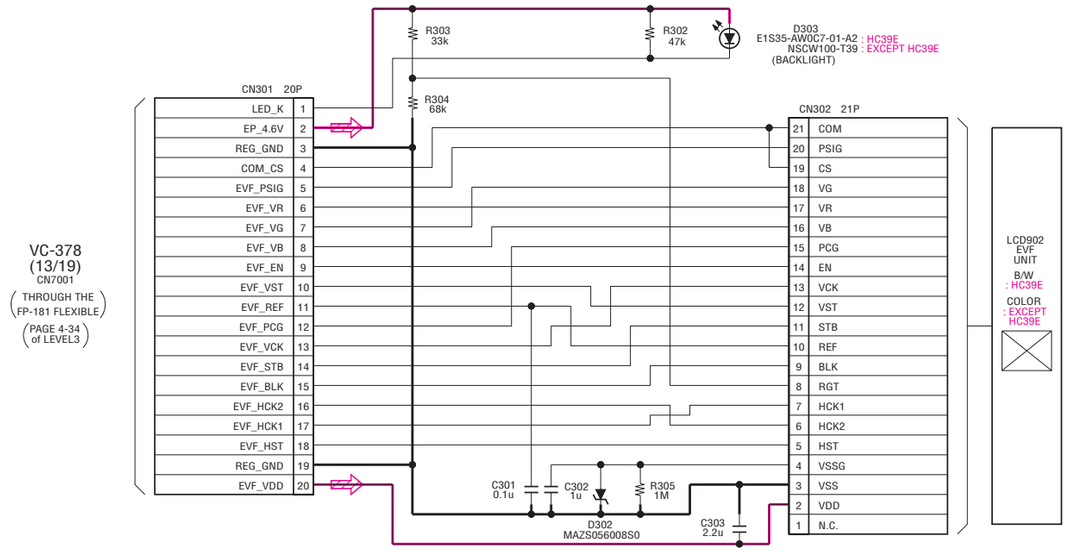
• Refer to page 4-75 for printed wiring board.



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.	⚠印の部品，または⚠印付きの点線で囲まれた部品は，安全性を維持するために重要な部品です。従って交換時は，必ず指定の部品を使用して下さい。

For Schematic Diagram
• Refer to page 4-74 for printed wiring board.

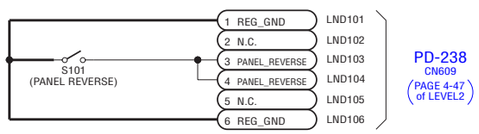
LB-109 BOARD
EVF, EVF BACKLIGHT



For Schematic Diagram
• Refer to page 4-78 for printed wiring board.

FP-186 FLEXIBLE BOARD
PANEL REVERSE DETECT

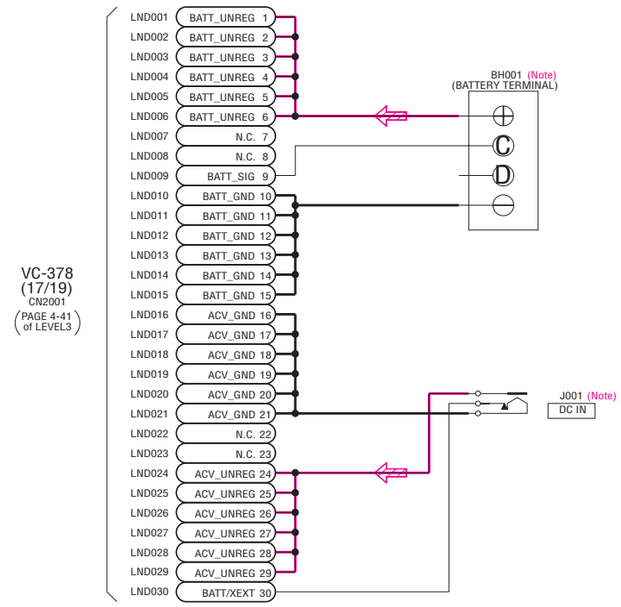
XX MARK:NO MOUNT
NO MARK:REC/PB MODE



For Schematic Diagram
• Refer to page 4-77 for printed wiring board.

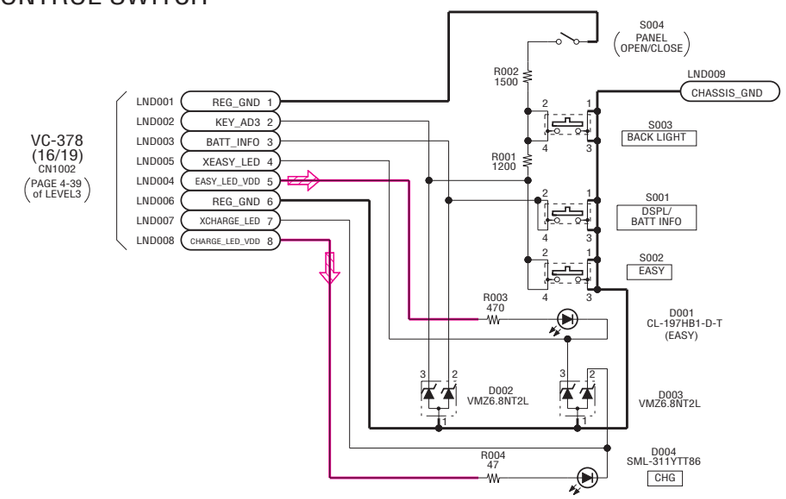
FP-180 FLEXIBLE BOARD
DC IN

Note: BH001 and J001 are not included in FP-180 flexible board.

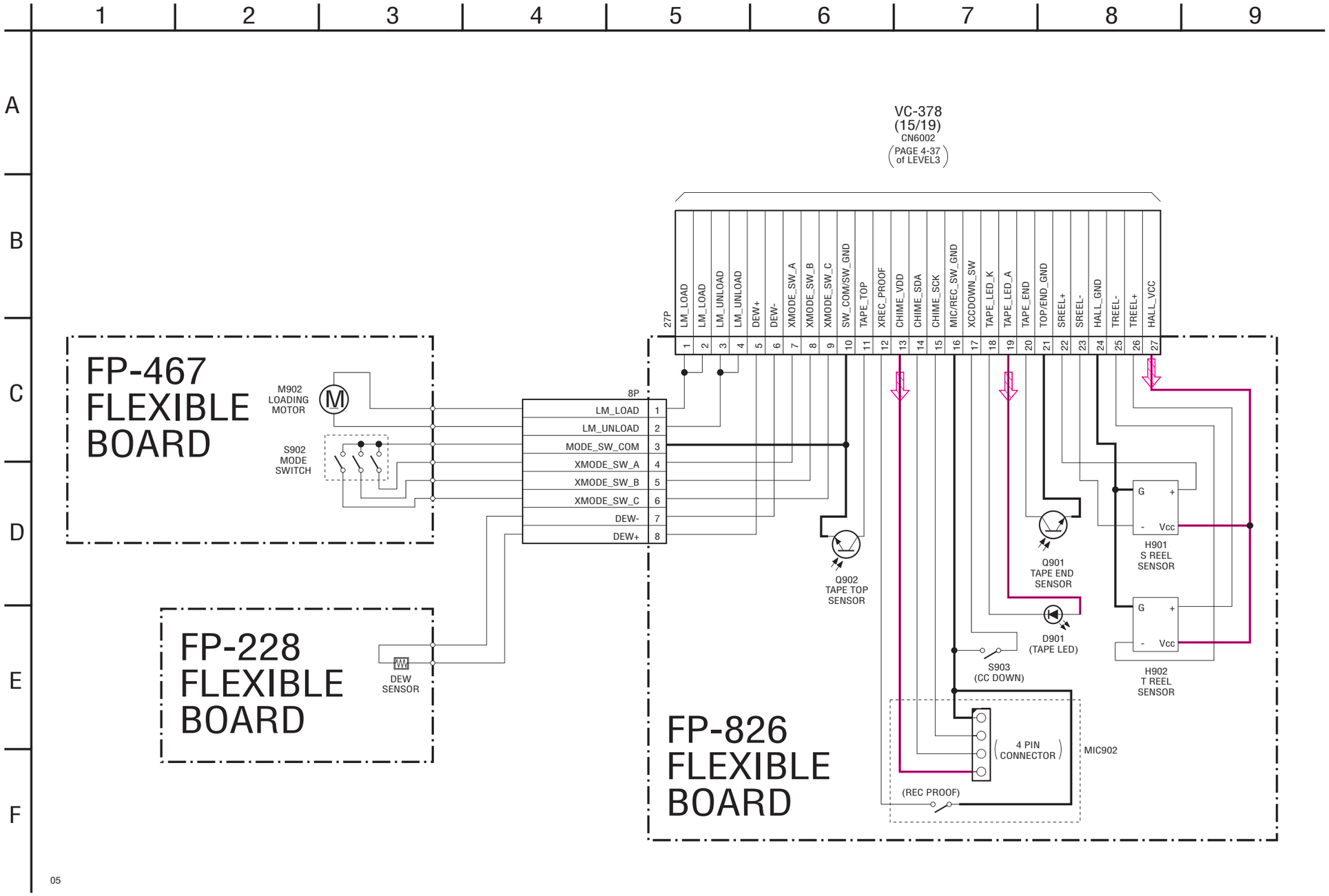


For Schematic Diagram
• Refer to page 4-77 for printed wiring board.

FP-187 FLEXIBLE BOARD
CONTROL SWITCH

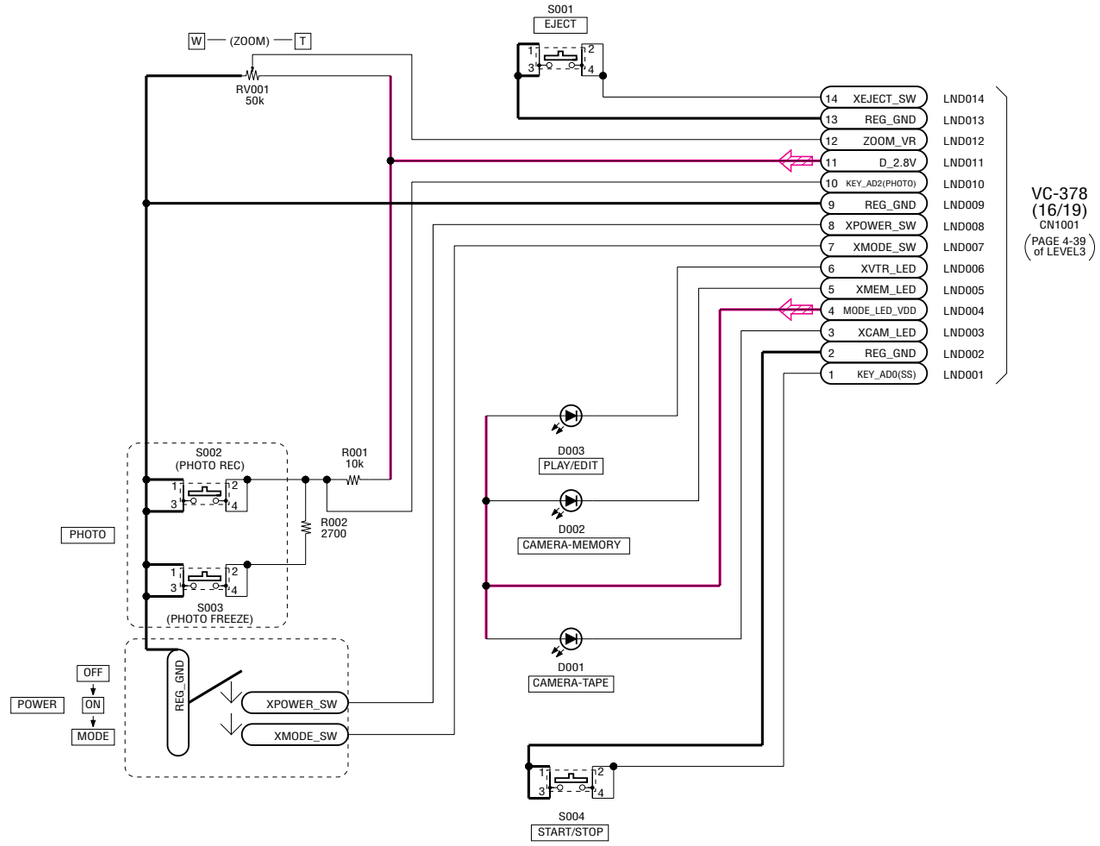


For Schematic Diagram
• Refer to page 4-79 for printed wiring board.



CONTROL KEY BLOCK (SS10300)

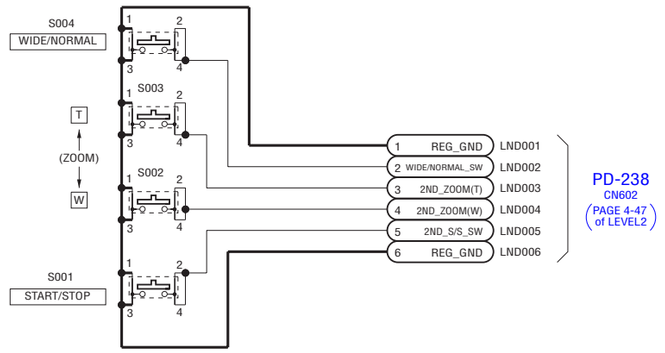
CONTROL KEY BLOCK (SS10300) is replaced as block, so that PRINTED WIRING BOARD is omitted.



05

CONTROL KEY BLOCK (SB10600)

CONTROL KEY BLOCK (SB10600) is replaced as block, so that PRINTED WIRING BOARD is omitted.



05

4-3. PRINTED WIRING BOARDS

Link

- CD-534 BOARD
- JK-278 BOARD
- PD-238 BOARD
- MS-249 BOARD
- CR-050 BOARD
- FP-180, FP-186, FP-187 FLEXIBLE BOARD
- SI-042 BOARD
- FP-826, FP-467, FP-228 FLEXIBLE BOARD
- LB-109 BOARD

- COMMON NOTE FOR PRINTED WIRING BOARDS
- WAVEFORMS
- MOUNTED PARTS LOCATION
- CIRCUIT BOARDS LOCATION
- FLEXIBLE BOARDS LOCATION

Board Name	Function
CD-534	CCD IMAGER
PD-238	LCD DRIVE, BACKLIGHT DRIVE
CR-050	CRADLE TERMINAL
SI-042	REMOTE COMMANDER RECEIVER, PITCH/YAW SENSOR
LB-109	EVF, EVF BACKLIGHT
JK-278	JACK
MS-249	MS CONNECTOR
FP-180	DC IN
FP-186	PANEL REVERSE DETECT
FP-187	CONTROL SWITCH

4-3. PRINTED WIRING BOARDS

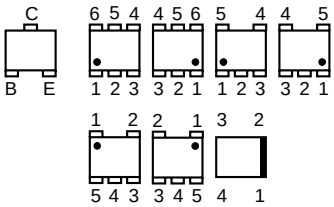
(ENGLISH)

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS

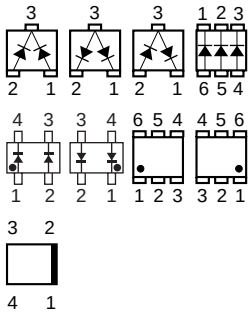
- : Uses unleaded solder.
- : Circuit board
  : Flexible board
  Pattern from the side which enables seeing.
  : pattern of the rear side
  (The other layers' patterns are not indicated)
- Through hole is omitted.
- Circled numbers refer to waveforms.
- There are a few cases that the part printed on diagram isn't mounted in this model.
- : panel designation

- Chip parts.

Transistor



Diode



(JAPANESE)

プリント図共通ノート

【プリント図ノート】

・ ：無鉛半田を使用しています。

・ ：基板

：フレキシブル配線板

見ている面側のパターン。

：裏側のパターン

（他のパターンについては表示されていません）

・スルーホールは省略。

・○番号は波形図の照合番号。

・プリント図には，本機で使用していない部品が記載されている場合があります。

・はパネル表示名称。

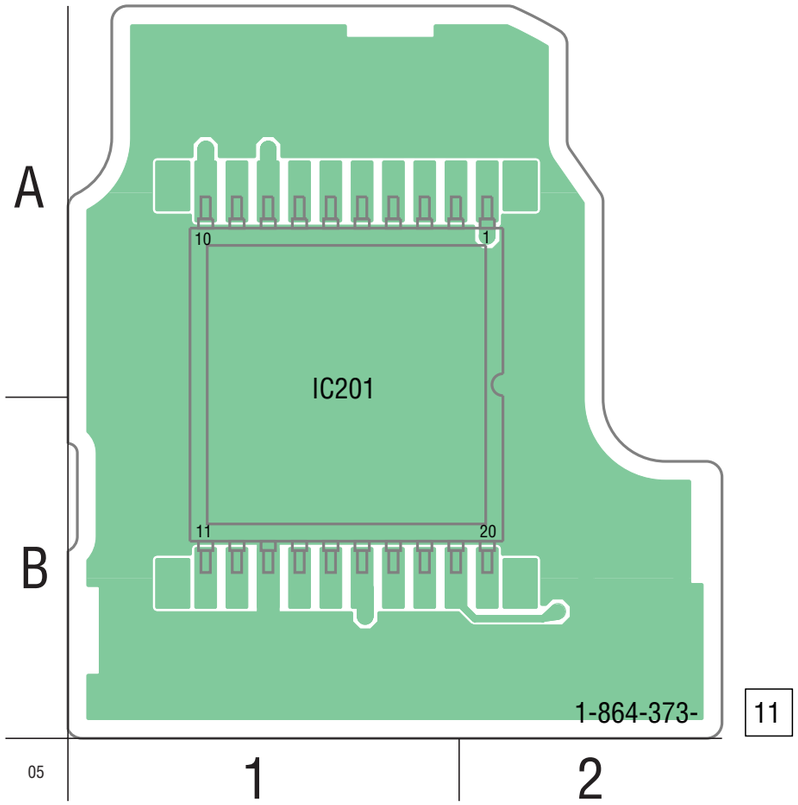
BOARD INFORMATION

Board Name	Waveform (Shown on Page)	Parts Location (Shown on Page)	Pattern	
			Total Number of Layers	Layers Not Indicated
CD-534	4-81	4-89	4 layers	2 to 3 layers
PD-238	4-88	4-92	2 layers	–
CR-050	–	–	2 layers	–
SI-042	–	4-92	2 layers	–
LB-109	–	–	2 layers	–
JK-278	–	4-92	2 layers	–
MS-249	–	–	2 layers	–
FP-180 Flexible	–	–	1 layer	–
FP-186 Flexible	–	–	1 layer	–
FP-187 Flexible	–	–	1 layer	–
FP-826 Flexible	–	–	1 layer	–
FP-467 Flexible	–	–	1 layer	–
FP-228 Flexible	–	–	1 layer	–

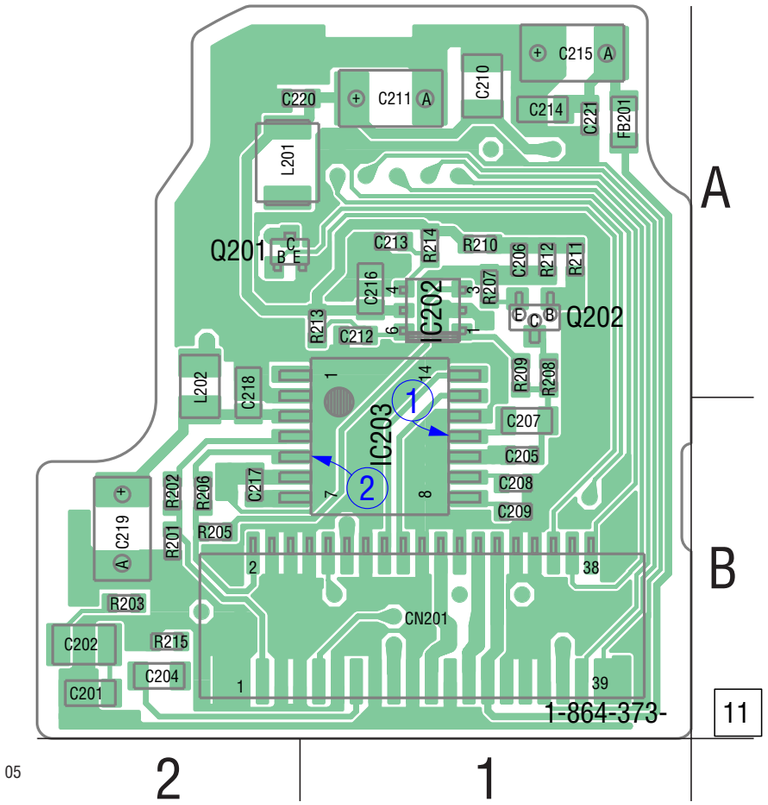
Note for Printed Wiring Board (See page 4-63).

: Uses unleaded solder.

CD-534 BOARD (SIDE A)



CD-534 BOARD (SIDE B)



Note: IC201 is not included in CD-534 complete board.

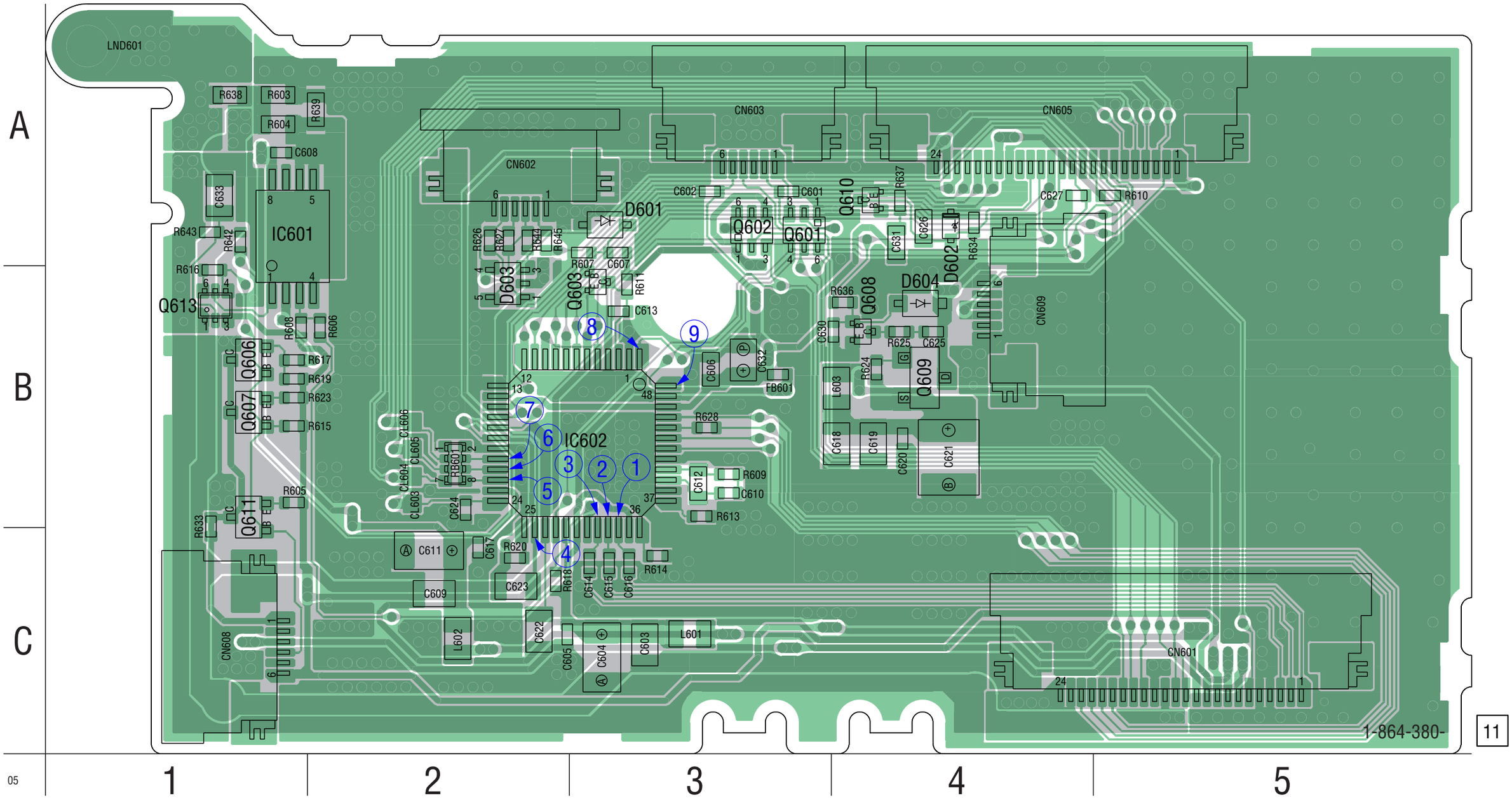
Printed wiring boards of the VC-378 board are not shown.
Pages from 4-67 to 4-70 are not shown.

PD-238

Note for Printed Wiring Board (See page 4-63).

: Uses unleaded solder.

PD-238 BOARD



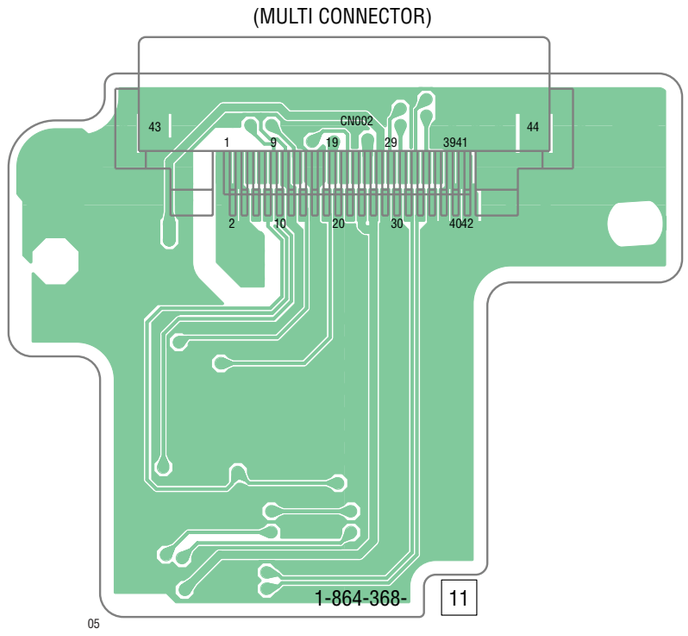
Note for Printed Wiring Board (See page 4-63).

CR-050

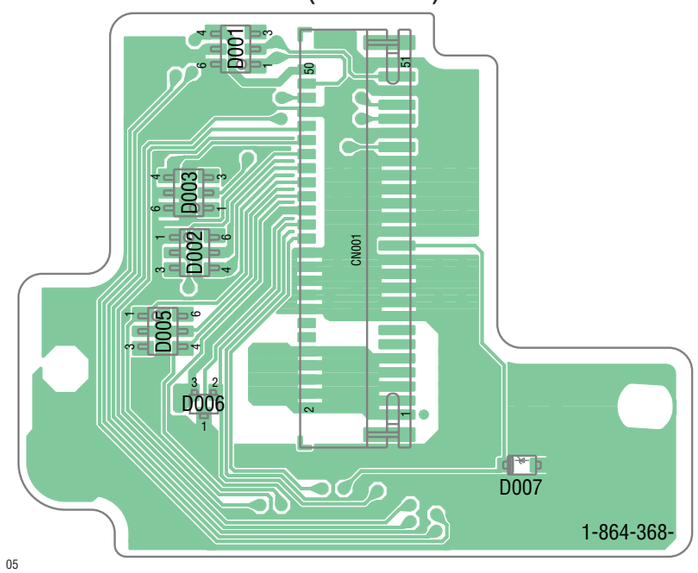
: Uses unleaded solder.

CR-050 BOARD (SIDE A)

Note: CN002 (multi connector) is not supplied,
but this is included in CR-050 complete board.



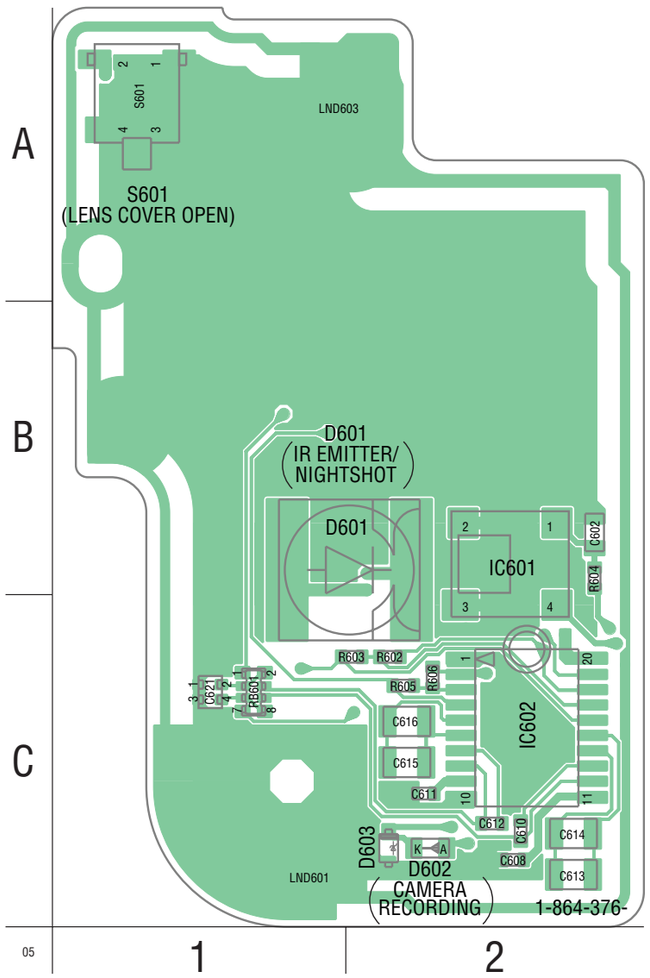
CR-050 BOARD (SIDE B)



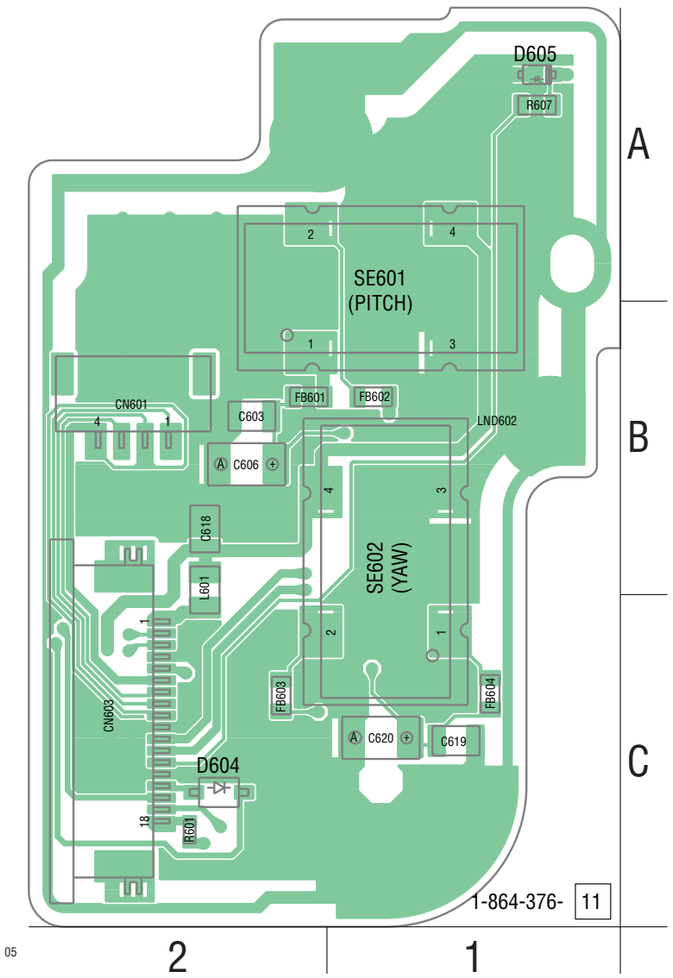
SI-042

: Uses unleaded solder.

SI-042 BOARD (SIDE A)



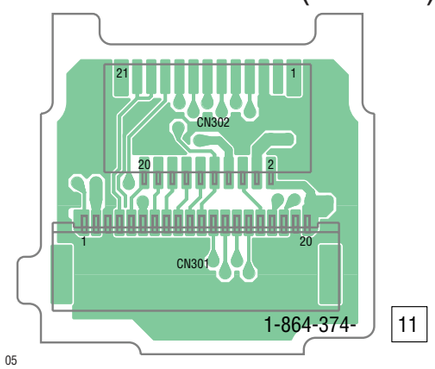
SI-042 BOARD (SIDE B)



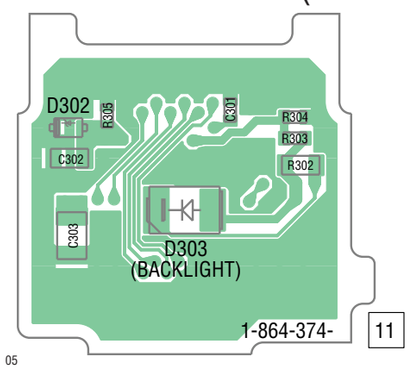
LB-109

: Uses unleaded solder.

LB-109 BOARD (SIDE A)



LB-109 BOARD (SIDE B)

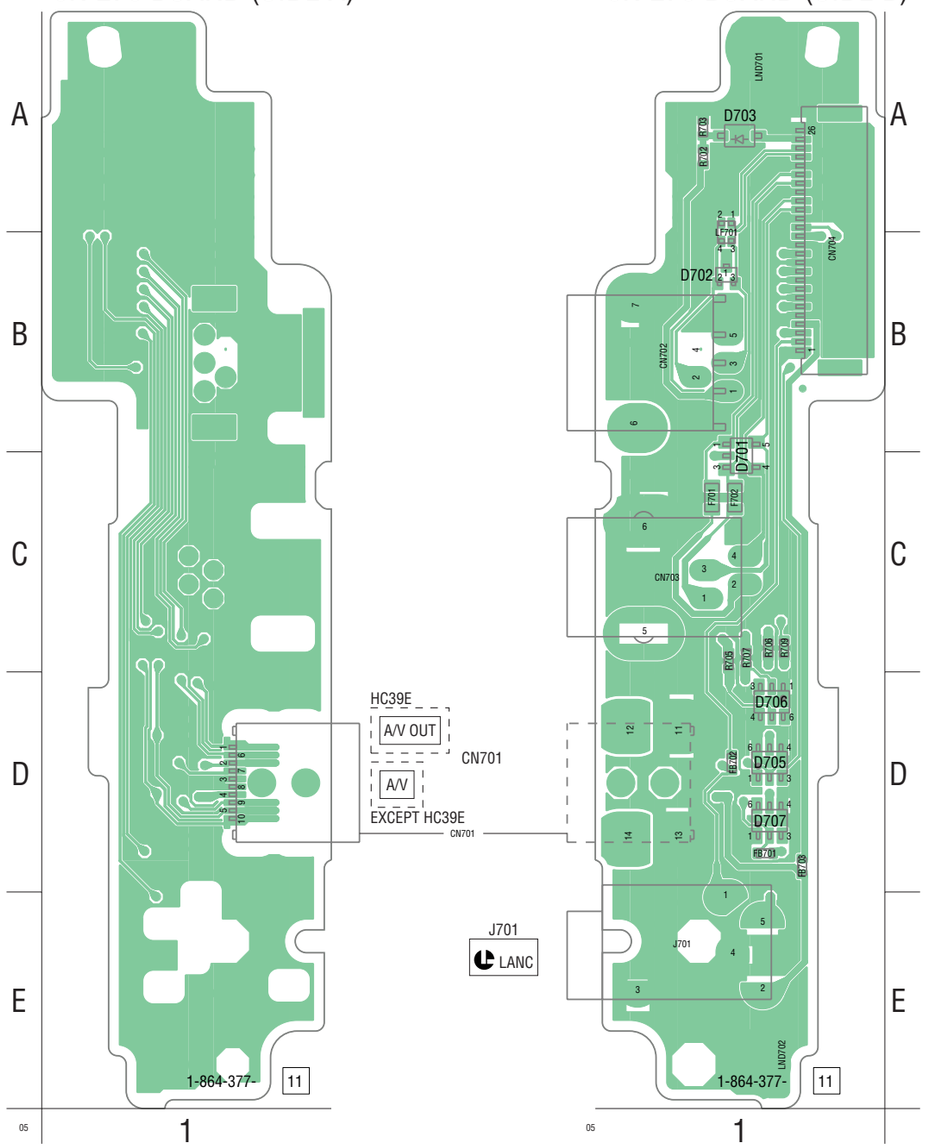


Note for Printed Wiring Board (See page 4-63).

JK-278

: Uses unleaded solder.

JK-278 BOARD (SIDE A)

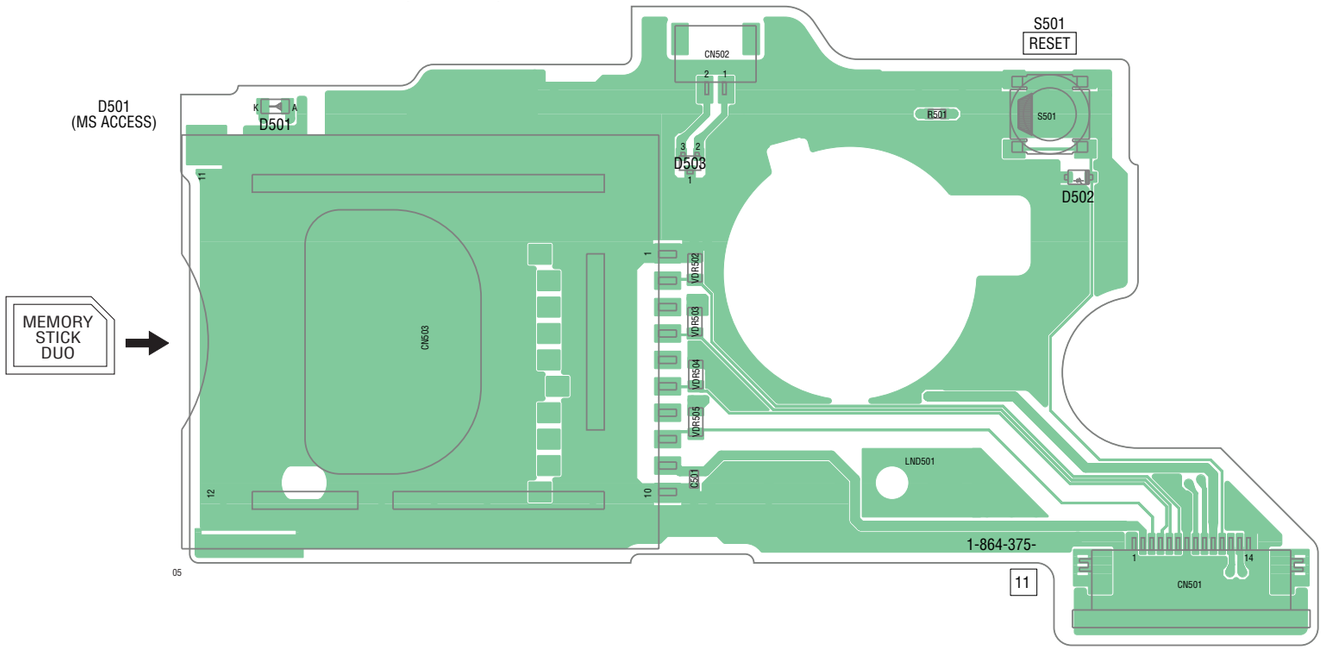


JK-278 BOARD (SIDE B)

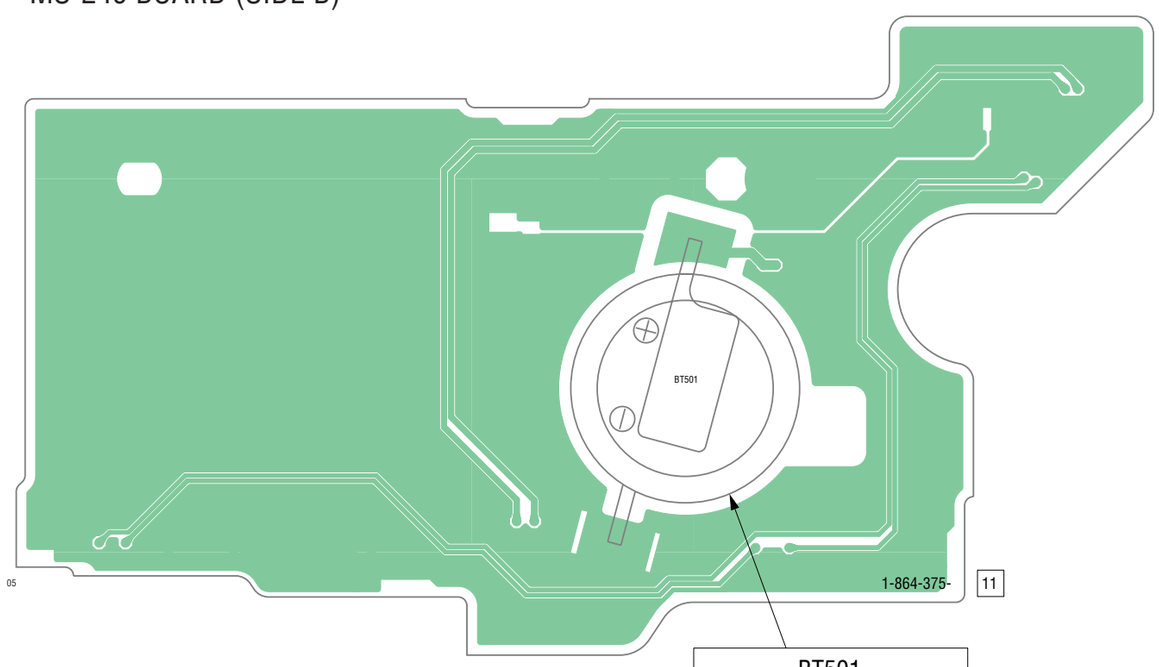
MS-249

: Uses unleaded solder.

MS-249 BOARD (SIDE A)



MS-249 BOARD (SIDE B)



BT501
BATTERY,
LITHIUM SECONDARY

CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

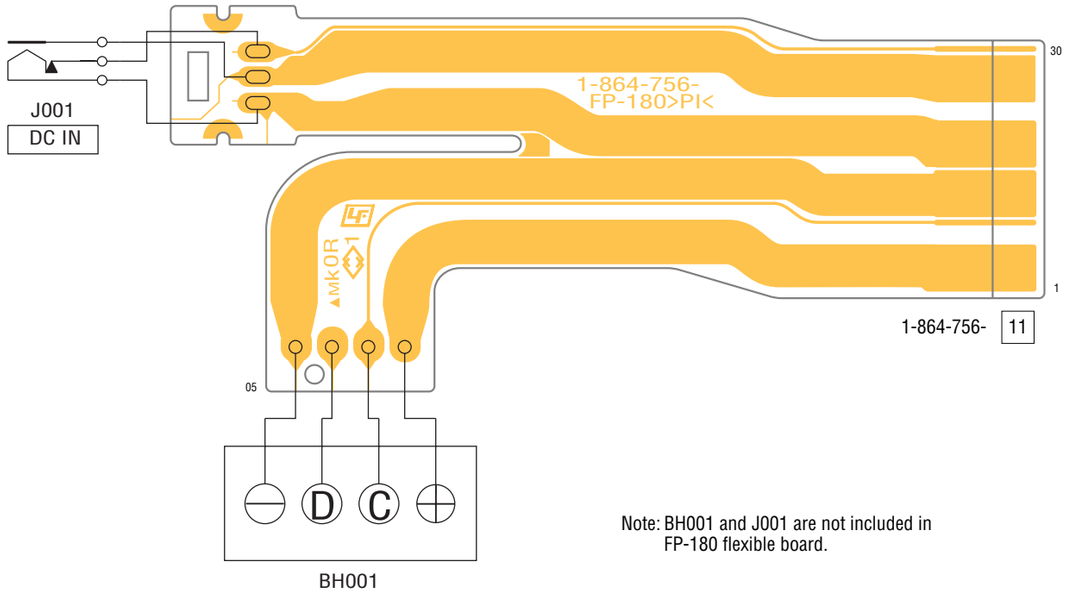
注意
電池の交換は，正しく行わないと破裂する恐れがあります。電池を交換する場合には必ず同じ型名の電池又は同等品と交換してください。

Note for Printed Wiring Board (See page 4-63).

FP-180

: Uses unleaded solder.

FP-180 FLEXIBLE BOARD

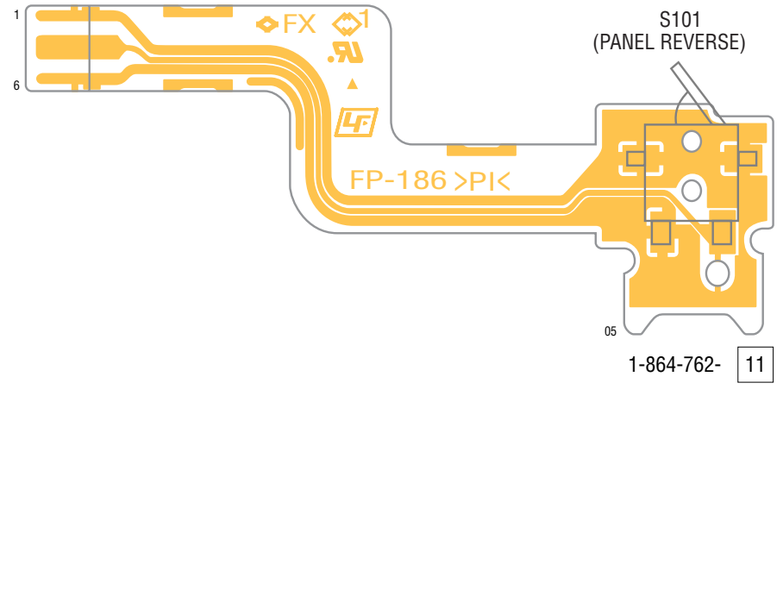


Note: BH001 and J001 are not included in FP-180 flexible board.

FP-186

: Uses unleaded solder.

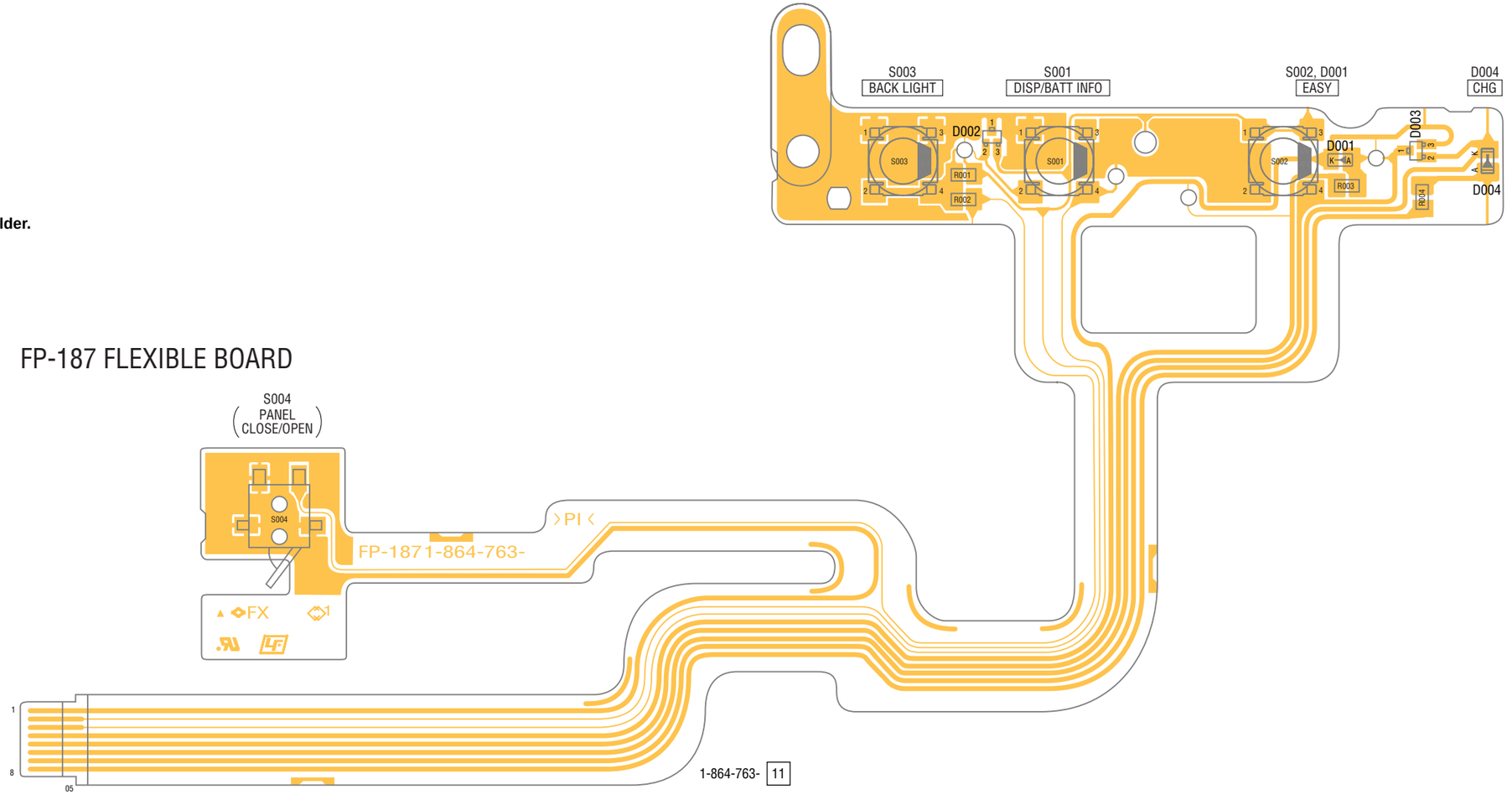
FP-186 FLEXIBLE BOARD



FP-187

: Uses unleaded solder.

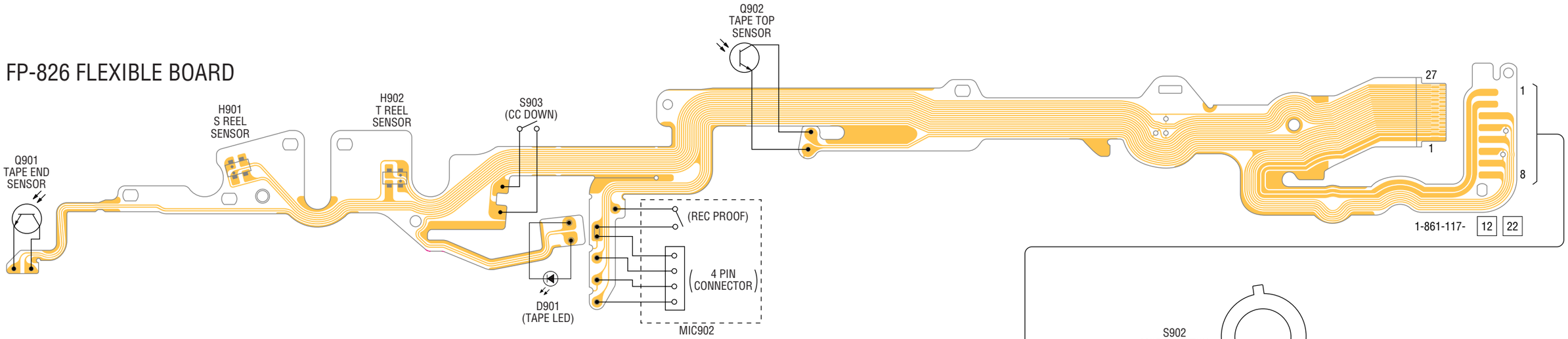
FP-187 FLEXIBLE BOARD

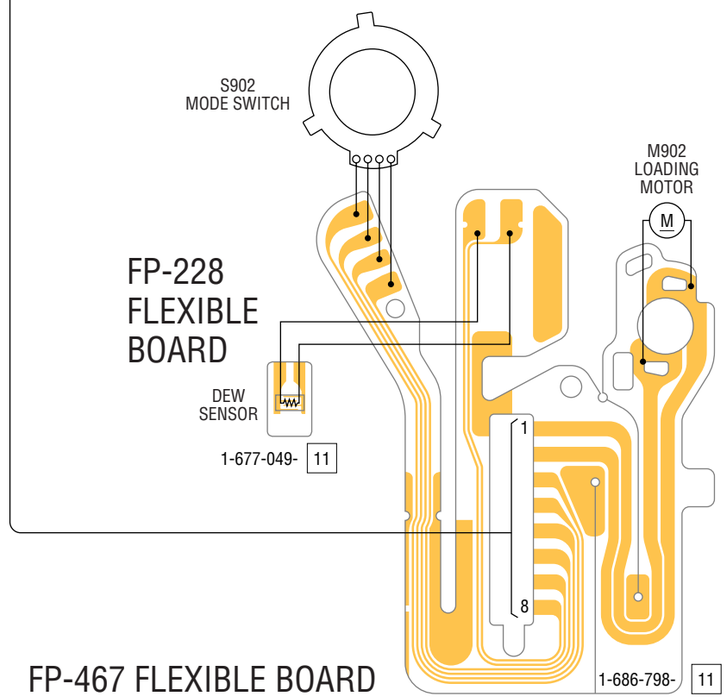


Note for Printed Wiring Board (See page 4-63).

: Uses unleaded solder.

FP-826 FLEXIBLE BOARD



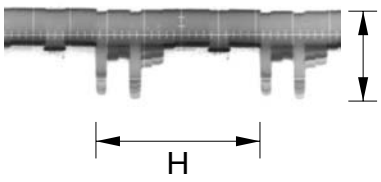


FP-467 FLEXIBLE BOARD

4-4. WAVEFORMS

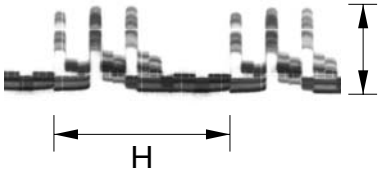
CD-534 BOARD

①



IC203 ⑪ REC

②

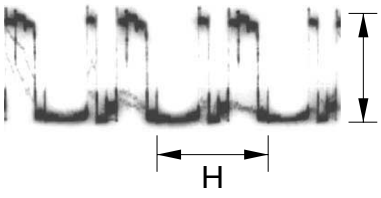


IC203 ⑤ REC

Waveforms of the VC-378 board are not shown.
Pages 4-82 to 4-87 are not shown.

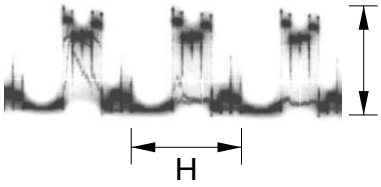
PD-238 BOARD

①



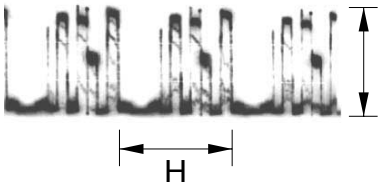
IC602 ㉞ REC/PB

②



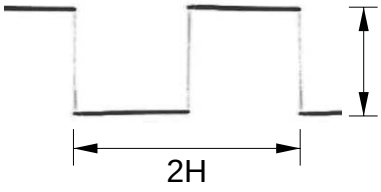
IC602 ㉝ REC/PB

③



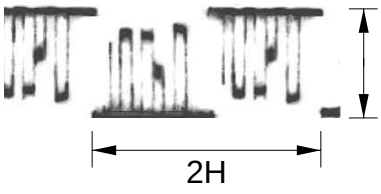
IC602 ㉜ REC/PB

④



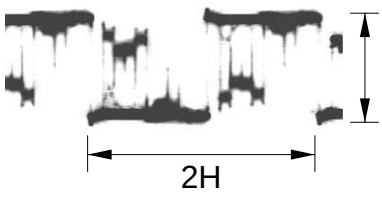
IC602 ㉖ REC/PB

⑤



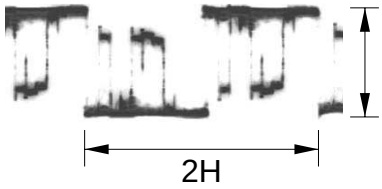
IC602 ㉒ REC/PB

⑥



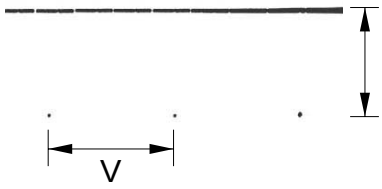
IC602 ㉑ REC/PB

⑦



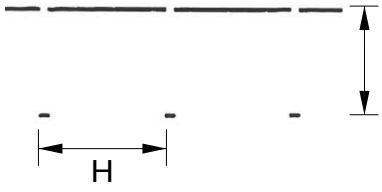
IC602 ⑳ REC/PB

⑧



IC602 ① REC/PB

⑨



IC602 ㊽ REC/PB

4-5. MOUNTED PARTS LOCATION

no mark : side A
* mark : side B

CD-534 BOARD

* C202 B-2
* C204 B-2
* C206 A-1
* C207 B-1
* C208 B-1
* C209 B-1
* C211 A-1
* C214 A-1
* C215 A-1
* C217 B-2
* C218 B-2
* C219 B-2
* C220 A-2
* C221 A-1

* CN201 B-1

* FB201 A-1

* IC203 B-1

* L201 A-2
* L202 B-2

* Q201 A-2
* Q202 A-1

* R203 B-2
* R207 A-1
* R210 A-1
* R211 A-1
* R212 A-1
* R215 B-2

Mounted parts location of the VC-378 board are not shown.
Pages 4-90 and 4-91 are not shown.

4-3. PRINTED WIRING BOARDS

no mark : side A
* mark : side B

PD-238 BOARD

C602	A-3
C603	C-3
C606	B-3
C608	A-1
C610	B-3
C611	C-2
C612	C-2
C614	C-3
C615	C-3
C616	C-3
C617	C-2
C618	B-4
C622	C-2
C623	C-2
C624	B-2
C625	B-4
C626	A-4
C627	A-4
C631	A-4
C633	A-1
CN601	C-5
CN602	A-2
CN603	A-3
CN605	A-4
CN608	C-1
CN609	B-4
D602	A-4
FB601	B-3
IC601	A-1
IC602	B-3
L601	C-3
L602	C-2
L603	B-4
Q601	A-3
Q602	A-3
Q606	B-1
Q607	B-1
Q608	B-4
Q609	B-4
Q610	A-4
Q611	B-1
Q613	B-1
R605	B-1
R606	B-2
R608	B-1
R609	B-3
R613	B-3
R614	C-3
R615	B-2
R616	B-1
R617	B-2
R619	B-2
R620	C-2
R623	B-2
R624	B-4
R625	B-4
R626	A-2
R627	A-2
R628	B-3
R634	A-4
R636	B-4
R637	A-4
R638	A-1
R639	A-2
R642	A-1
R643	A-1
R644	A-2
R645	A-2
RB601	B-2

SI-042 BOARD

C602	B-2
* C603	B-2
C608	C-2
C610	C-2
C611	C-2
C612	C-2
C613	C-2
C614	C-2
C615	C-2
C616	C-2
* C618	B-2
* C619	C-1
C621	C-1
* CN601	B-2
* CN603	C-2
D601	B-2
D602	C-2
* D604	C-2
* FB601	B-2
* FB602	B-1
* FB603	C-2
* FB604	C-1
IC601	B-2
IC602	C-2
* L601	B-2
* R601	C-2
R602	C-2
R603	C-2
R604	C-2
R605	C-2
R606	C-2
* R607	A-1
RB601	C-1
S601	A-1
* SE601	A-1
* SE602	B-1

JK-278 BOARD

* CN701	D-1
* CN704	B-1
* D705	D-1
* D706	D-1
* D707	D-1
* FB701	D-1
* FB702	D-1
* FB703	D-1
* J701	E-1
* R705	C-1
* R706	C-1
* R707	C-1
* R709	C-1

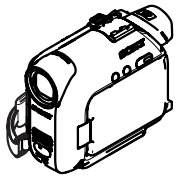
NOTE

5. REPAIR PARTS LIST

NOTE: Characters A to Z of the electrical parts list indicate location of exploded views in which the desired part is shown.

Link

EXPLODED VIEWS

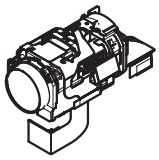


A

OVERALL ASSEMBLY

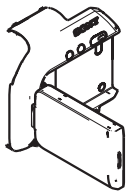
B

F PANEL BLOCK



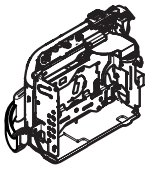
C

LENS BLOCK



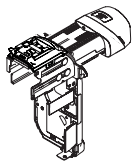
D

CABINET (R) BLOCK



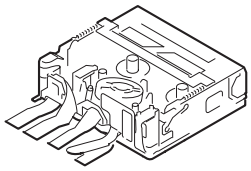
E

CS BLOCK



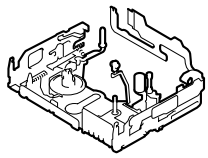
F

BAT EVF BLOCK



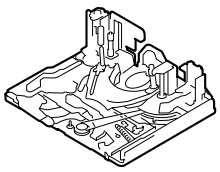
G

MECHANISM DECK



H

LS CHASSIS BLOCK ASSEMBLY



I

MECHANICAL CHASSIS BLOCK ASSEMBLY

Link

ELECTRICAL PARTS LIST

ACCESSORIES

CD-534 BOARD C	FP-187 FLEXIBLE BOARD D	LB-109 BOARD F
CR-050 BOARD D	FP-467 FLEXIBLE BOARD I	MS-249 BOARD E
FP-180 FLEXIBLE BOARD F	FP-826 FLEXIBLE BOARD H	PD-238 BOARD D
FP-186 FLEXIBLE BOARD D	JK-278 BOARD E	SI-042 BOARD B

5. REPAIR PARTS LIST

(ENGLISH)

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- CAPACITORS:
  uF: µF
- COILS
  uH: µH
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...

(JAPANESE)

【使用上の注意】

- ここに記載されている部品は，補修用部品であるため，回路図及びセットに付いている部品と異なる場合があります。
- −XX, −Xは標準化部品のため，セットに付いている部品と異なる場合があります。
- *印の部品は常備在庫しておりません。
- コンデンサの単位でuFはµFを示します。
- 抵抗の単位Ωは省略してあります。
  金　　被：金属被膜抵抗。
  サンキン：酸化金属被膜抵抗。
- インダクタの単位でuHはµHを示します。
- 半導体の名称でuA..., uPA..., uPB..., uPC..., uPD...等はそれぞれµA..., µPA..., µPB..., µPC..., µPD...を示します。

(ENGLISH)

When indicating parts by reference number, please include the board name.

(JAPANESE)

お願い

図面番号で部品を指定するときは基板名又はブロックを併せて指定して下さい。

(ENGLISH)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

(JAPANESE)

⚠印の部品，または⚠印付きの点線で囲まれた部品は，安全性を維持するために重要な部品です。
従って交換時は，必ず指定の部品を使用して下さい。

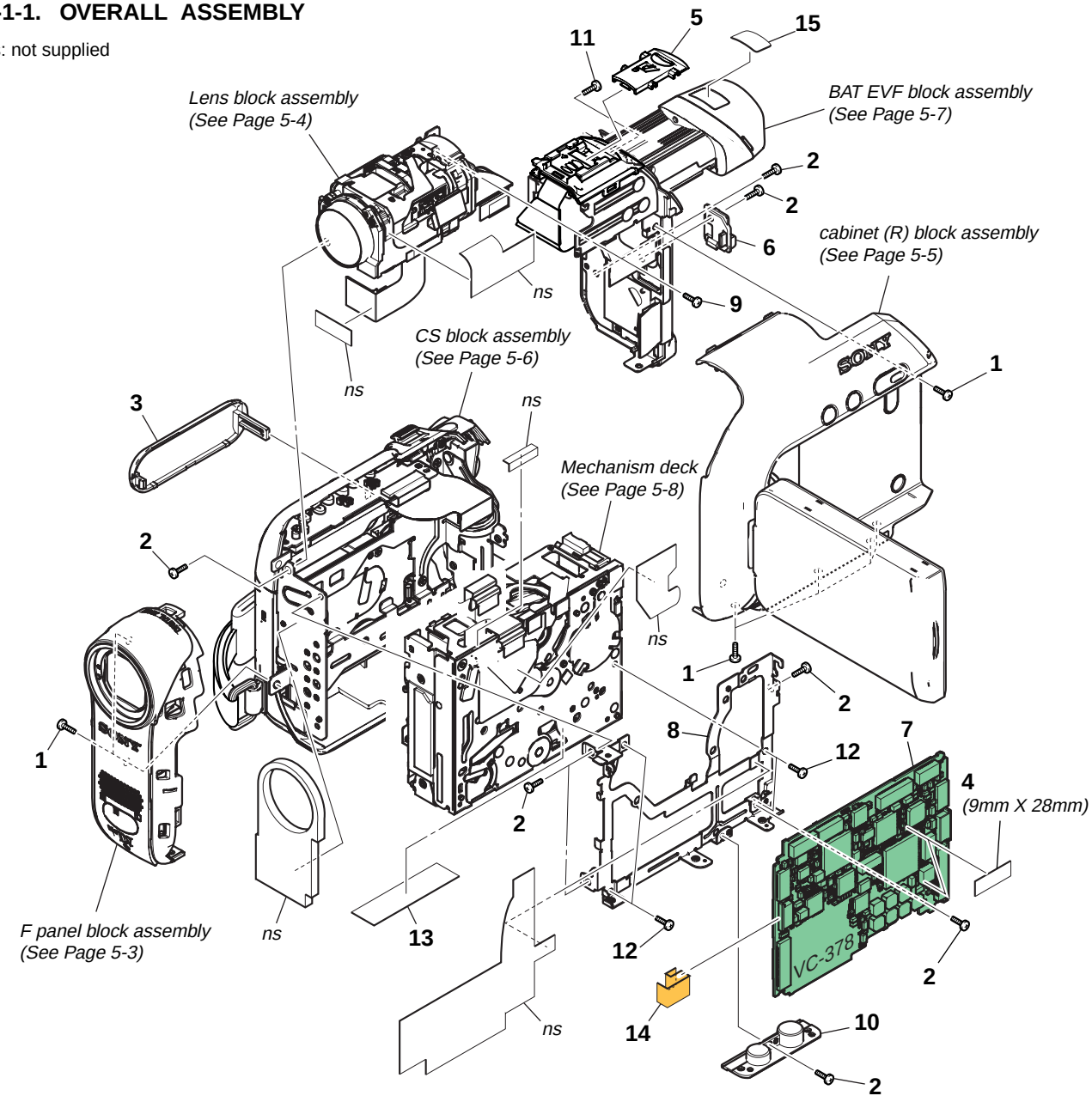
- Abbreviation
  AUS : Australian model
  BR : Brazilian model
  CH : Chinese model
  CND : Canadian model
  EE : East European model
  HK : Hong Kong model
  J : Japanese model
  JE : Tourist model
  KR : Korea model
  NE : North European model

5. REPAIR PARTS LIST

5-1. EXPLODED VIEWS

5-1-1. OVERALL ASSEMBLY

ns: not supplied



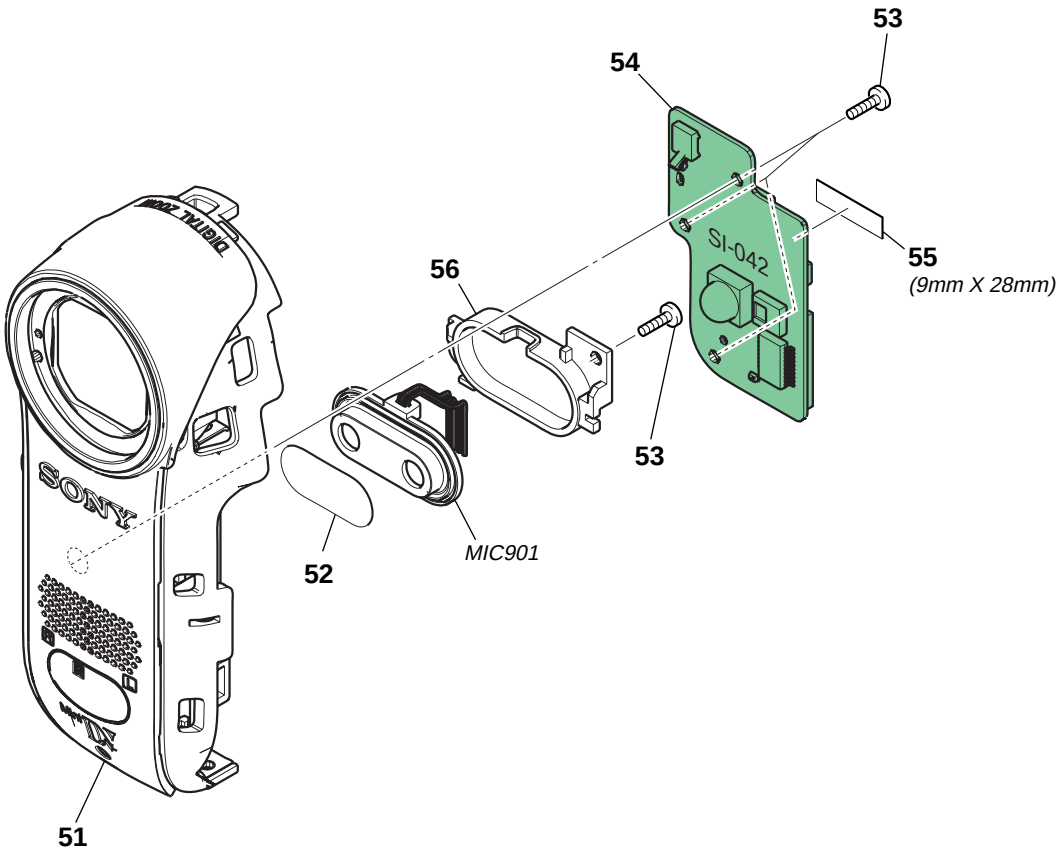
CAUTION:
4番のテープ(A)(3−080−272−01)は，T0.25ヒメロン(3−941−343−21)を切って使用。

CAUTION :
For the part of 4 : TAPE (A) (3-080-272-01), cut WOVEN (T0.25), FABRIC NON (3-941-343-21) into the desired length and use it.

Ref. No.	Part No.	Description
1	3-078-889-31	SCREW (M1.7)
2	3-080-198-11	SCREW (M1.7), LOCK ACE, P2
3	2-188-477-01	COVER, JACK
4	CAUTION	TAPE (A)
5	2-188-484-01	COVER (106), SHOE
6	2-188-478-01	LID, CPC
7	A-1101-191-A	VC-378 BOARD, COMPLETE (SERVICE) (HC39E)
7	A-1101-199-A	VC-378 BOARD, COMPLETE (SERVICE) (HC41/HC42/HC43)
7	A-1101-200-A	VC-378 BOARD, COMPLETE (SERVICE) (HC42E/HC43E)
8	X-2023-772-1	FRAME ASSY, MD
9	3-080-204-21	SCREW, TAPPING, P2
10	3-089-520-01	SCREW
11	3-080-198-31	SCREW (M1.7), LOCK ACE, P2
12	3-062-214-01	SCREW (M1.4X1.5)
13	3-081-221-01	LABEL (Z), LS
14	1-829-774-11	CABLE, FLEXIBLE FLAT (FFC-038)
15	3-089-544-01	LABEL, VF

5-1-2. F PANEL BLOCK

ns: not supplied



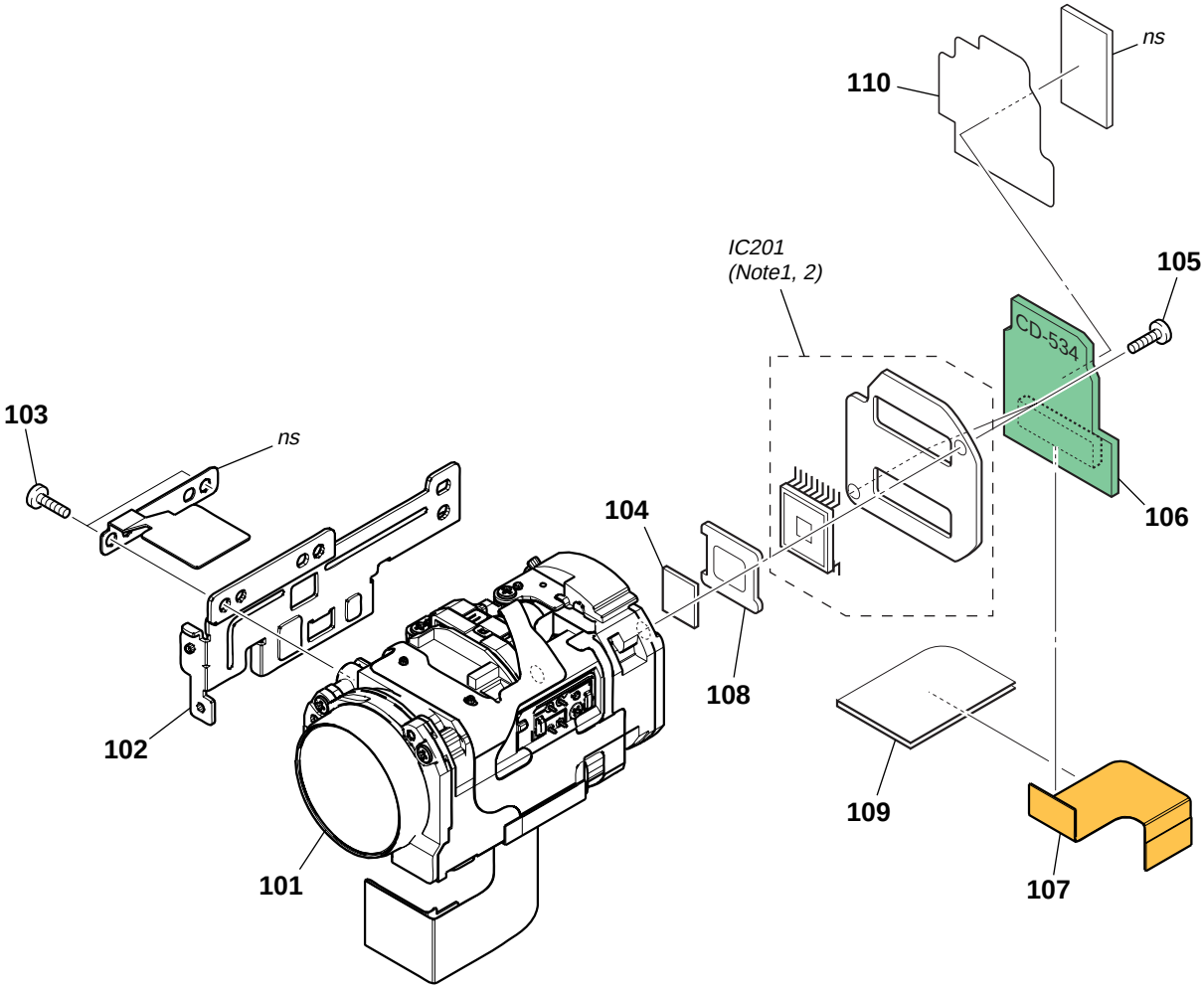
CAUTION:
55番のテープ(A)(3−080−272−01)は，T0.25ヒメロン(3−941−343−21)を切って使用。

CAUTION :
For the part of 55 : TAPE (A) (3-080-272-01), cut WOVEN (T0.25), FABRIC NON (3-941-343-21) into the desired length and use it.

Ref. No.	Part No.	Description
51	X-2024-832-1	PANEL ASSY (480), FRONT (EXCEPT HC41)
51	X-2024-833-1	PANEL ASSY (150), FRONT (HC41)
52	3-089-771-01	CUSHION, MICROPHONE
53	3-078-890-11	SCREW, TAPPING
54	A-1081-844-A	SI-042 BOARD, COMPLETE
55	CAUTION	TAPE (A)
56	2-188-425-01	RETAINER, IR
MIC901	1-542-513-21	MICROPHONE

5-1-3. LENS BLOCK

ns: not supplied



Note 1: IC201は，マウント済CD−534基板には含まれません。

Note 2: CCDイメージャの交換時は4−6ページの“CCDイメージャ交換時の注意”を必ずお読みください。

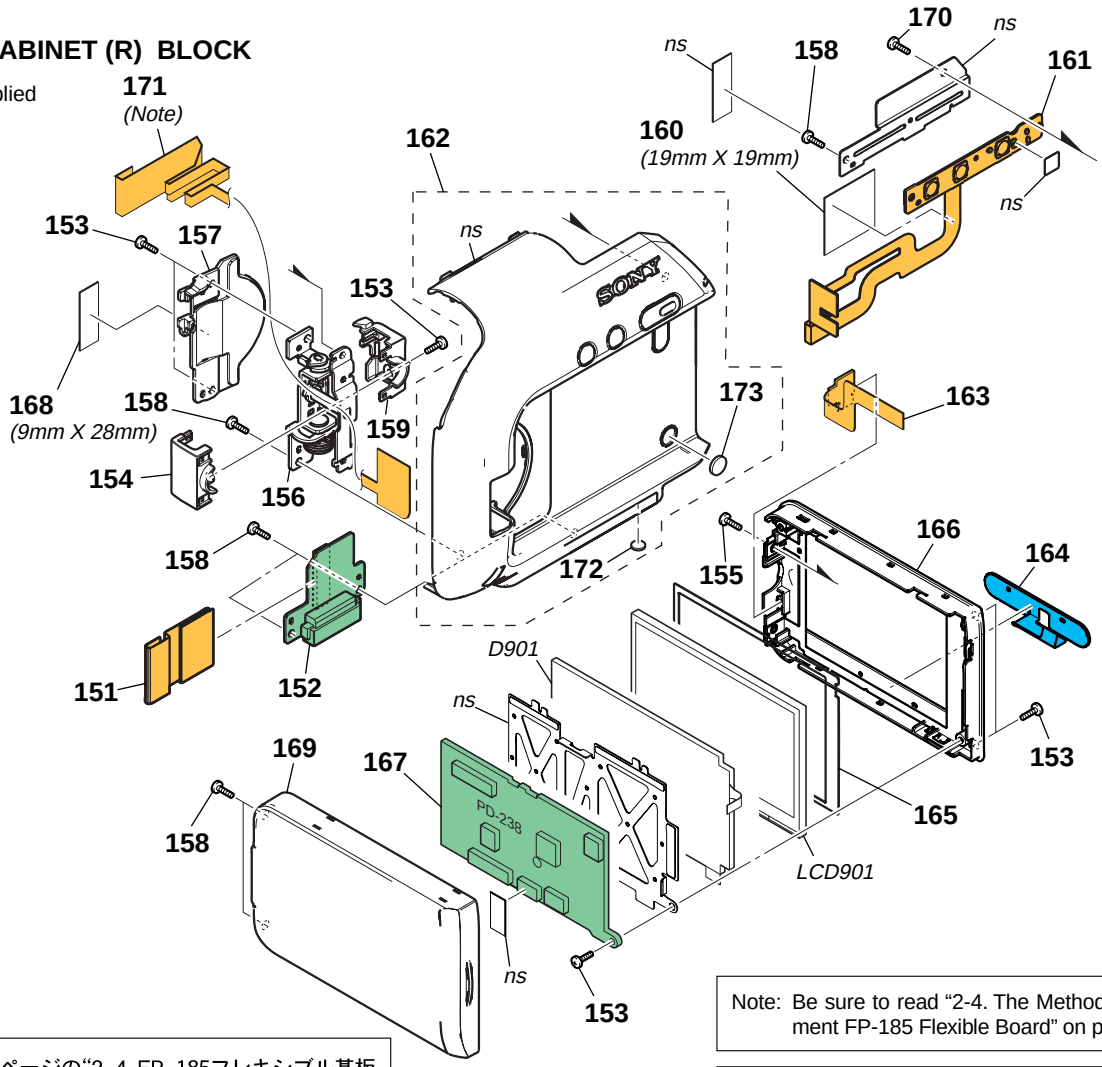
Note 1: IC201 is not included in CD-534 complete board.

Note 2: Be sure to read “Precuations for Replacement of CCD Imager” on page 4-5 when changing the CCD imager.

Ref. No.	Part No.	Description
101	8-848-790-01	DEVICE, LENS LSV-1080A
102	2-188-472-01	FRAME LENS
103	3-080-204-01	SCREW, TAPPING, P2
104	1-788-241-11	OPTICAL FILTER BLOCK
105	3-080-204-21	SCREW, TAPPING, P2
106	A-1081-699-A	CD-534 BOARD, COMPLETE
107	1-864-755-11	FP-179 FLEXIBLE BOARD
108	3-088-645-01	RUBBER (Z), SEAL
109	2-349-848-01	SHEET (CD), RADIATION
110	2-594-270-01	SHEET (G), CD COPPER LEAF
IC201	A-1103-137-A	CCD BLOCK ASSY (CCD IMAGER) (Note1, 2)

5-1-4. CABINET (R) BLOCK

ns: not supplied



Note: 2–8ページの“2–4. FP–185フレキシブル基板の取り付け方を必ずお読み下さい。

CAUTION 1:
160番のテープ(BT)(2–349–851–01)は，T0.25ヒメロン(3–076–631–01)を切って使用。

CAUTION 2:
168番のテープ(A)(3–080–272–01)は，T0.25ヒメロン(3–941–343–21)を切って使用。

Note: Be sure to read “2-4. The Method of Attachment FP-185 Flexible Board” on page 2-8.

CAUTION 1 :
For the part of 160 : TAPE (BT) (2-349-851-01), cut WOVEN (T0.25), FABRIC NON (3-076-631-01) into the desired length and use it.

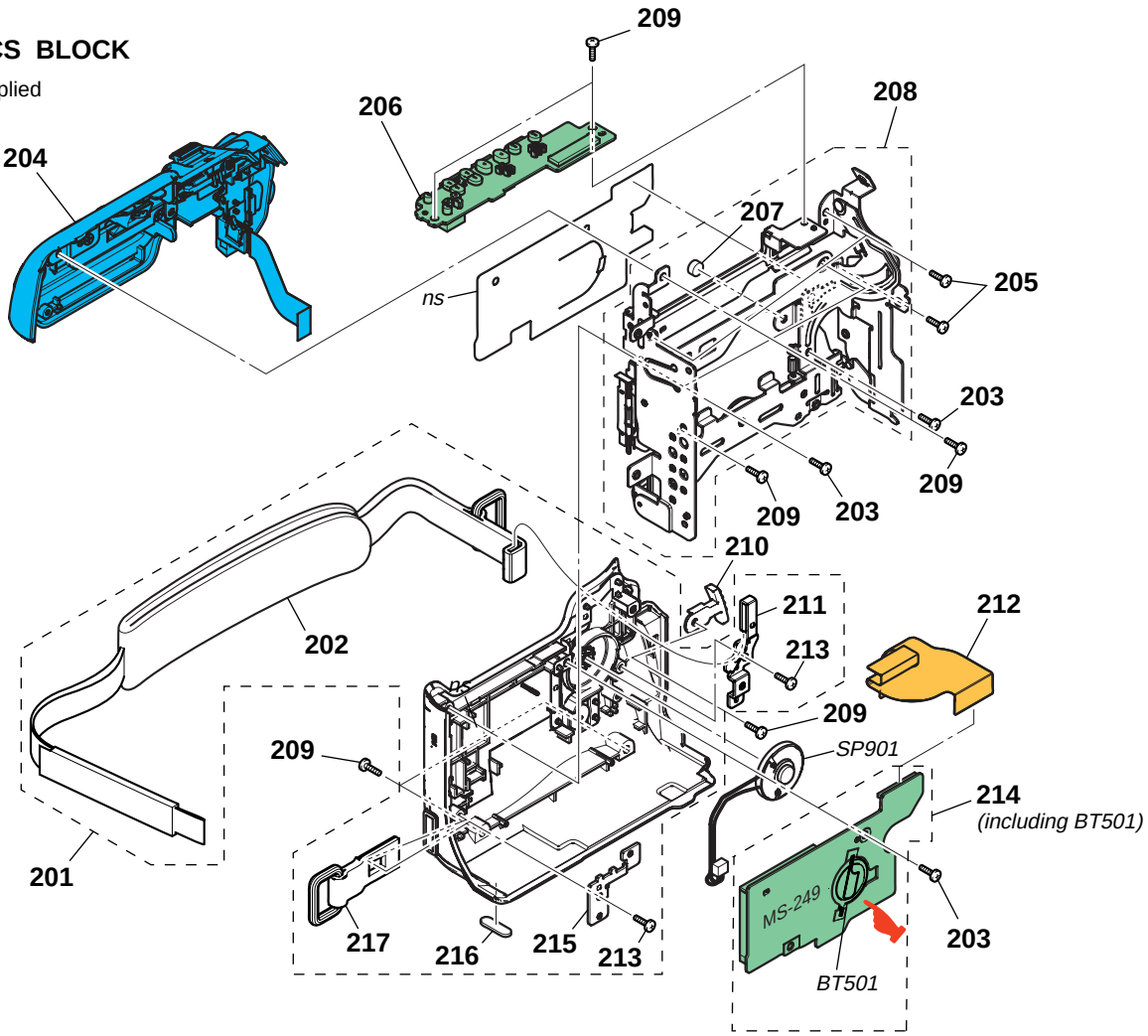
CAUTION 2 :
For the part of 168 : TAPE (A) (3-080-272-01), cut WOVEN (T0.25), FABRIC NON (3-941-343-21) into the desired length and use it.

Ref. No.	Part No.	Description
151	1-864-764-11	FP-190 FLEXIBLE BOARD
152	A-1081-704-A	CR-050 BOARD, COMPLETE
153	3-080-204-21	SCREW, TAPPING, P2
154	2-188-434-01	COVER (C), HINGE
155	3-078-889-21	SCREW (M1.7)
156	X-2023-771-1	HINGE (103) ASSY
157	2-188-476-01	BLIND, HINGE
158	3-078-890-11	SCREW, TAPPING
159	2-188-433-01	COVER (M), HINGE
160	CAUTION 1	TAPE (BT)
161	A-1082-203-A	FP-187 FLEXIBLE BOARD
162	X-2024-695-1	CABINET R ASSY (EXCEPT HC41)
162	X-2024-696-1	CABINET R ASSY (HC41)
163	A-1082-042-A	FP-186 FLEXIBLE BOARD
164	1-478-984-11	KEY BLOCK, CONTROL (SB10600)
165	2-188-437-01	CUSHION (106), PANEL

Ref. No.	Part No.	Description
166	X-2024-704-1	CABINET (M) (106) ASSY, P (EXCEPT HC41)
166	X-2024-705-1	CABINET (M) (106) ASSY, P (HC41)
167	A-1081-853-A	PD-238 BOARD, COMPLETE
168	CAUTION 2	TAPE (A)
169	2-349-514-01	CABINET (C (106)), P (HC42)
169	2-349-514-11	CABINET (C (106)), P (HC42E)
169	2-349-514-21	CABINET (C (106)), P (HC43)
169	2-349-514-31	CABINET (C (106)), P (HC43E)
169	2-349-514-41	CABINET (C (106)), P (HC39E)
169	2-349-514-51	CABINET (C (106)), P (HC41)
170	3-085-397-01	SCREW
171	1-864-761-11	FP-185 FLEXIBLE BOARD
172	2-593-937-01	FOOT (RR), RUBBER
173	3-089-565-01	CUSHION (R), PANEL
D901	1-478-990-11	BLOCK, LIGHT GUIDE PLATE (2.7)
LCD901	A-1083-763-A	TP BLOCK ASSY 27STGU

5-1-5. CS BLOCK

ns: not supplied



BT501(BATTERY, LITHIUM SECONDARY)
Board on the mount position (See page 4-76).

CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

注意
電池の交換は，正しく行わないと破裂する恐れがあります。電池を交換する場合には必ず同じ型名の電池又は同等品と交換してください。

⚠印の部品，または⚠印付きの点線で囲まれた部品は，安全性を維持するために重要な部品です。
従って交換時は，必ず指定の部品を使用して下さい。

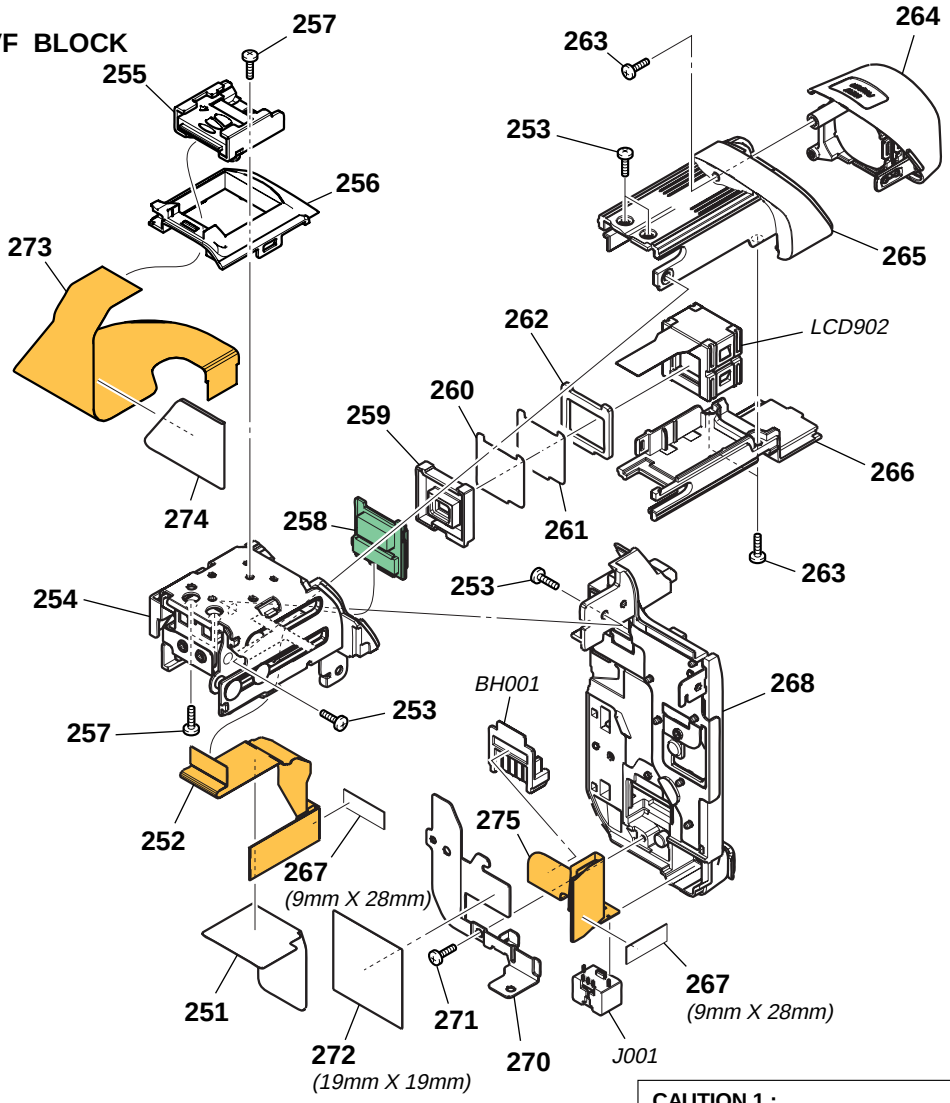
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description
201	X-2024-840-1	CABINET (G) ASSY (EXCEPT HC41)
201	X-2024-841-1	CABINET (G) ASSY (HC41)
202	2-583-631-01	BELT, GRIP
203	3-078-890-11	SCREW, TAPPING
204	1-478-982-51	KEY BLOCK, CONTROL (SS10300) (HC39E)
204	1-478-982-61	KEY BLOCK, CONTROL (SS10300) (HC42/HC42E/HC43/HC43E)
204	1-478-982-71	KEY BLOCK, CONTROL (SS10300) (HC41)
205	3-080-204-01	SCREW, TAPPING, P2
206	A-1081-841-A	JK-278 BOARD, COMPLETE
207	3-959-978-02	CUSHION, PANEL
208	X-2023-773-1	FRAME ASSY, CS

Ref. No.	Part No.	Description
209	3-080-198-11	SCREW (M1.7), LOCK ACE, P2
210	2-188-450-01	KNOB, EJECT
211	2-188-455-01	SHEET METAL (REAR), GRIP BELT
212	1-864-758-11	FP-182 FLEXIBLE BOARD
213	3-080-204-11	SCREW, TAPPING, P2
214	A-1081-843-A	MS-249 BOARD, COMPLETE
215	2-188-453-01	SHEET METAL (FRONT), GRIP BELT
216	2-188-514-01	FOOT (G), RUBBER
217	2-583-616-01	BELT (FRONT), GRIP
⚠BT501	1-756-075-21	BATTERY, LITHIUM (SECONDARY)
SP901	1-825-260-23	LOUD SPEAKER (1.6cm)

5-1-6. BAT EVF BLOCK

ns: not supplied



CAUTION 1:
267番のテープ(A)(3−080−272−01)は，T0.25ヒメロン(3−941−343−21)を切って使用。

CAUTION 2:
272番のテープ(BT)(2−349−851−01)は，T0.25ヒメロン(3−076−631−01)を切って使用。

CAUTION 1 :
For the part of 267 : TAPE (A) (3-080-272-01), cut WOVEN (T0.25), FABRIC NON (3-941-343-21) into the desired length and use it.

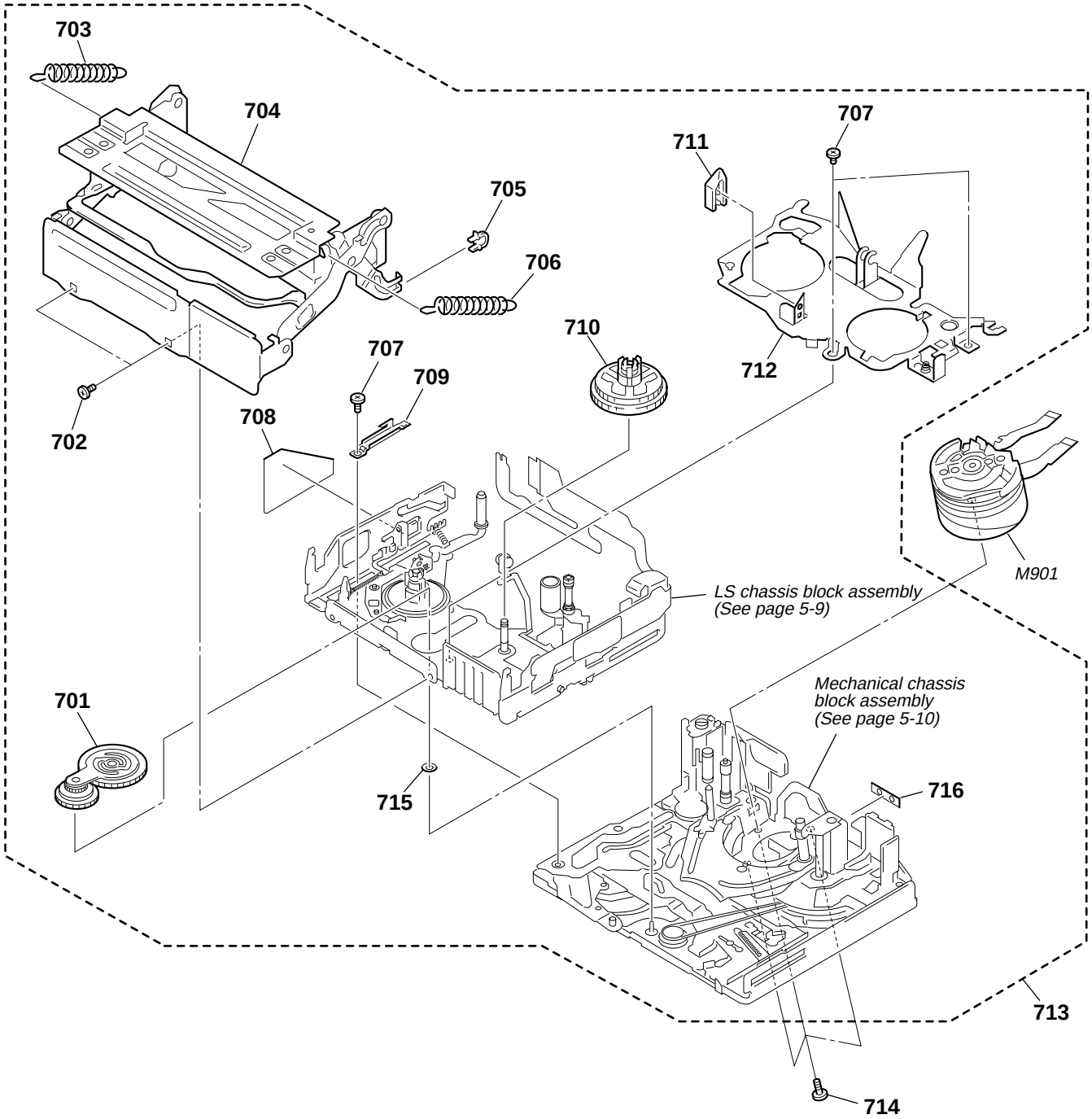
CAUTION 2 :
For the part of 272 : TAPE (BT) (2-349-851-01), cut WOVEN (T0.25), FABRIC NON (3-076-631-01) into the desired length and use it.

Ref. No.	Part No.	Description
251	2-188-512-01	SHEET, VF FLEXIBLE FIXED
252	1-864-757-11	FP-181 FLEXIBLE BOARD
253	3-078-889-21	SCREW (M1.7)
254	X-2023-650-1	VF SLIDE ASSY
255	1-818-890-11	CONNECTOR, EXTERNAL (HOT SHOE)
256	2-188-483-01	BASE (106), SHOE
257	3-080-198-11	SCREW (M1.7), LOCK ACE, P2
258	A-1081-845-A	LB-109 BOARD, COMPLETE (HC39E)
258	A-1081-846-A	LB-109 BOARD, COMPLETE (EXCEPT HC39E)
259	3-089-415-01	GUIDE, LAMP
260	3-089-417-01	ILLUMINATOR
261	3-089-416-01	SHEET, PRISM
262	3-089-419-01	CUSHION, LCD
263	3-080-204-21	SCREW, TAPPING, P2
264	X-2023-648-1	EYE CUP ASSY
265	X-2023-647-1	CABINET UPPER ASSY VF

Ref. No.	Part No.	Description
266	2-188-511-01	CABINET LOWER, VF
267	CAUTION 1	TAPE (A)
268	X-2048-505-1	PANEL ASSY, BT (EXCEPT HC43)
268	X-2048-506-1	PANEL ASSY, BT (HC43)
270	2-188-500-01	PLATE, BT TERMINAL RETAINER
271	3-080-204-01	SCREW, TAPPING, P2
272	CAUTION 2	TAPE (BT)
273	1-864-760-11	FP-184 BOARD
274	2-349-849-01	SHEET (SHOE), RADIATION
275	1-864-756-11	FP-180 FLEXIBLE BOARD
BH001	1-780-064-21	BATTERY TERMINAL BOARD
J001	1-815-792-11	CONNECTOR, DC-IN (7.2V) (DC IN)
LCD902	8-753-208-78	LCX059AKA-J (HC41/HC42/HC42E/HC43/HC43E: E)
LCD902	8-753-208-84	LCX059ALA-1 (HC39E)
LCD902	8-753-234-59	LCX059ZKA-1 (HC43E: CH)

5-1-7. MECHANISM DECK

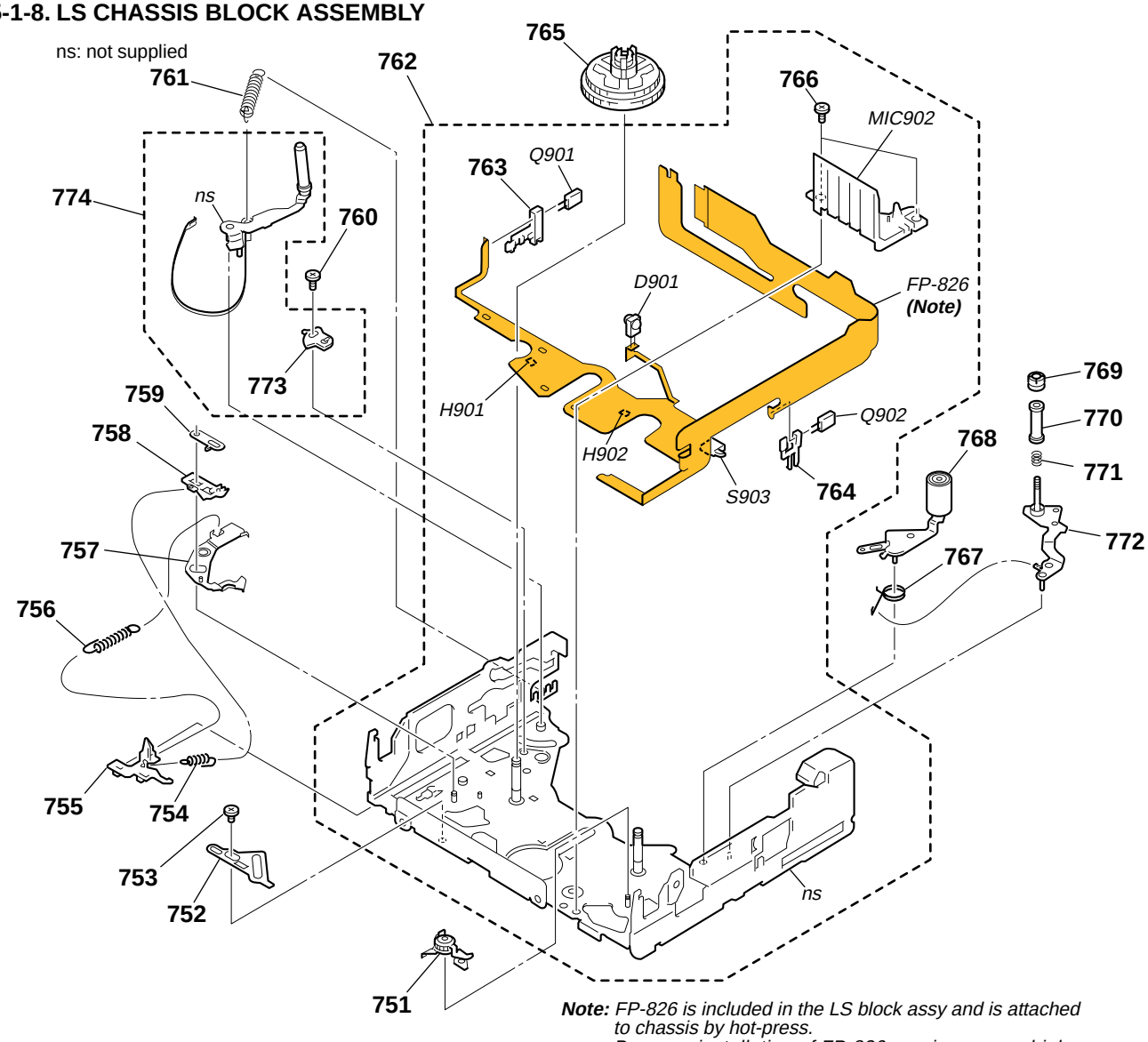
ns: not supplied



Ref. No.	Part No.	Description
701	X-3952-938-6	GEAR ASSY, GOOSENECK
702	3-075-097-11	SCREW (M1.4X1.4), SPECIAL HEAD
703	3-079-206-02	SPRING (POP UP S), TXTENSION
704	X-2024-802-1	COMPARTMENT ASSY, CASSETTE
705	3-079-367-01	DAMPER, CASSETTE COMPARTMENT
706	3-079-215-02	SPRING (POP UP T), EXTENSION
707	3-085-330-01	SCREW, SPECIAL
708	3-080-545-01	COVER, SENSOR S
709	3-079-364-01	RETAINER, LS GUIDE

Ref. No.	Part No.	Description
710	X-3952-937-1	TABLE ASSY, T REEL
711	3-079-366-01	RELEASE, REEL LOCK
712	X-3953-257-1	PLATE ASSY, RETAINER
713	A-1082-424-A	MD (Z210) SUB ASSY
714	3-079-741-02	SCREW, DRUM FIXING
715	3-748-682-01	WASHER, T
716	3-087-881-01	SHEET, ADHESIVE, FLEXIBLE
M901	A-7048-994-A	DRUM (DEH-30B-R) (SERVICE)

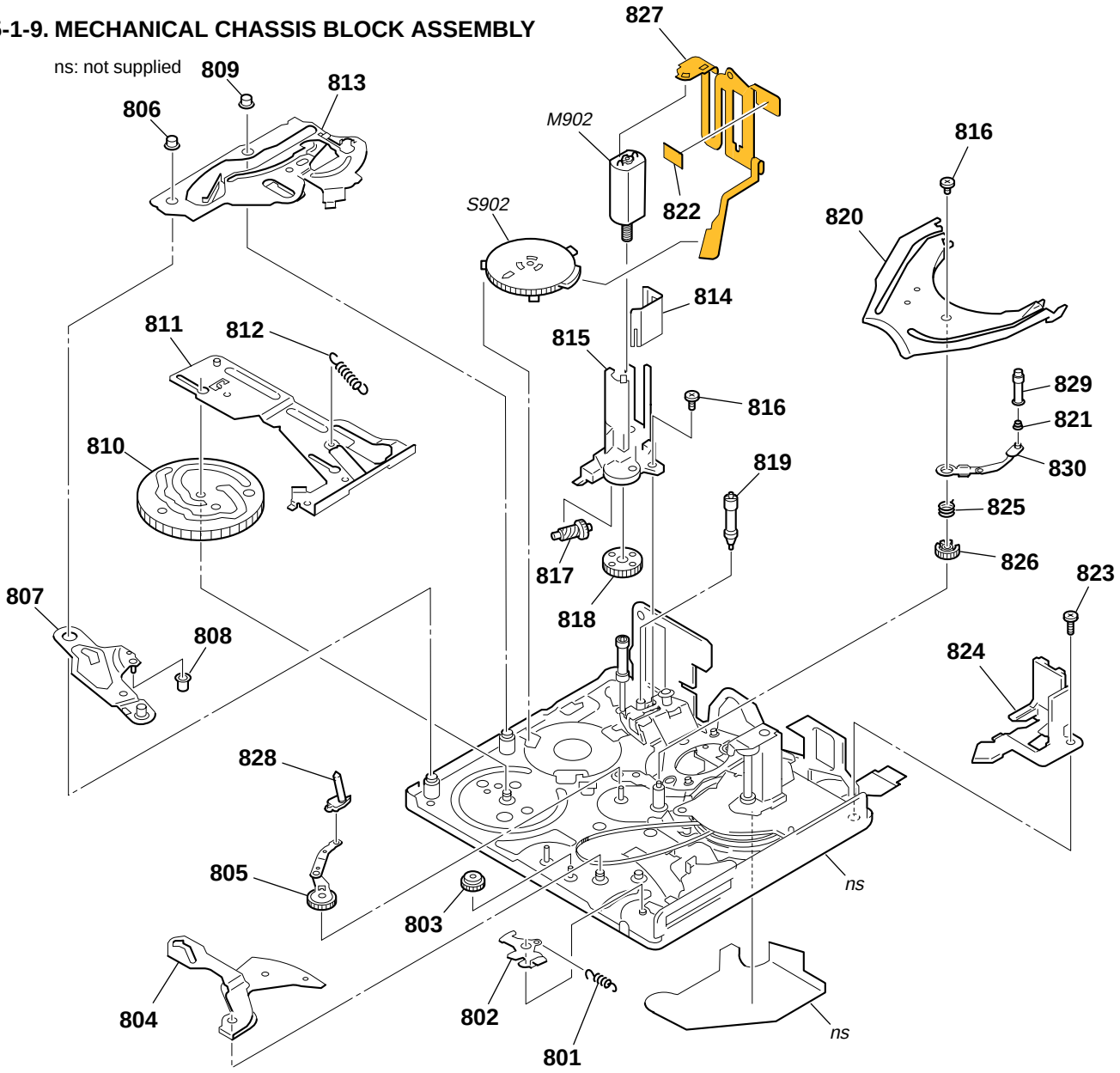
5-1-8. LS CHASSIS BLOCK ASSEMBLY



Note: *FP-826 is included in the LS block assy and is attached to chassis by hot-press.*
Because installation of FP-826 requires a very high accuracy, FP-826 is not supplied as an independent service parts.

Ref. No.	Part No.	Description
751	A-7095-402-B	BRAKE (T) BLOCK ASSY (S)
752	3-079-241-01	PLATE, LS CAM
753	3-075-097-11	SCREW (M1.4X1.4), SPECIAL HEAD
754	3-079-246-01	SPRING (RELEASE RACK), EXTENSION
755	3-079-248-01	POSITIONING (S), CASSETTE
756	3-079-244-01	SPRING (ULE), EXTENSION
757	X-3952-932-1	BRAKE ASSY, ULE
758	3-079-245-01	RACK (S), RELEASE
759	3-079-247-01	BRAKE (S)
760	3-059-090-11	SCREW (M1.4X2.5), SPECIAL HEAD
761	3-079-242-01	SPRING, TENSION
762	A-7095-951-A	LS BLOCK ASSY
763	3-079-267-01	HOLDER (S), SENSOR
764	3-079-268-01	HOLDER (T), SENSOR
765	X-3952-936-2	TABLE ASSY, S REEL
766	3-085-330-01	SCREW, SPECIAL
767	3-079-243-02	SPRING (PINCH RETURN), TORSION
768	X-3952-934-1	ARM ASSY, PINCH
769	3-052-062-02	NUT, TG7
770	3-079-219-02	TG7
771	3-081-591-01	SPRING, COMPRESSION (TG7)
772	X-3952-935-3	ARM ASSY, TG7
773	3-079-237-01	ADJUSTOR, BAND
774	A-7095-403-B	TG2 ARM BLOCK ASSY
D901	6-500-652-01	DIODE GL453SE0000F (TAPE LED)
H901	8-719-067-74	ELEMENT, HOLE HW-105A-CDE-T (S REEL)
H902	8-719-067-74	ELEMENT, HOLE HW-105A-CDE-T (T REEL)
MIC902	1-817-175-12	PIN, CONNECTOR (WITH DETECTION SWITCH)
Q901	6-550-672-01	TRANSISTOR PT4850FJE00F (TAPE END)
Q902	6-550-672-01	TRANSISTOR PT4850FJE00F (TAPE TOP)
S903	1-529-566-51	SWITCH, PUSH (1 KEY) (C.C. DOWN)

5-1-9. MECHANICAL CHASSIS BLOCK ASSEMBLY



Ref. No.	Part No.	Description
801	3-079-314-01	SPRING (EJ), EXTENSION
802	3-079-327-01	ARM, EJ
803	3-079-323-01	GEAR, CONVERSION
804	3-079-324-01	ARM, GL DRIVING
805	X-3952-928-1	GL (S) ASSY
806	3-079-315-01	ROLLER (S1), LS GUIDE
807	X-3952-925-1	ARM ASSY, LS
808	3-079-320-01	ROLLER, LS
809	3-079-316-01	ROLLER (S2), LS GUIDE
810	3-079-319-01	GEAR, CAM
811	X-3954-274-2	SLIDER ASSY (N), M
812	3-079-321-02	SPRING (PINCH), EXTENSION
813	X-3954-273-2	PLATE ASSY (N), TG2 CAM
814	3-079-312-01	SHIELD, MOTOR
815	3-079-307-02	HOLDER, MOTOR
816	3-085-330-01	SCREW, SPECIAL

Ref. No.	Part No.	Description
817	3-079-308-01	SHAFT, WORM
818	3-079-309-01	GEAR, DECELERATION
819	X-3952-942-2	ROLLER ASSY, TG3
820	3-079-325-01	RAIL, GUIDE
821	3-079-295-02	SPRING, TG5
822	1-677-049-11	FP-228 FLEXIBLE BOARD (DEW SENSOR)
823	3-079-328-01	SCREW (M1.4), SPECIAL HEAD
824	3-079-326-02	SUPPORT, TG7
825	3-079-301-01	SPRING (GLT), TORSION
826	3-079-298-01	GEAR (T), GL
827	1-686-798-11	FP-467 FLEXIBLE BOARD
828	X-3952-927-2	COASTER (S) ASSY
829	X-3952-930-3	ROLLER ASSY, TG5
830	X-3952-929-1	COASTER (T) ASSY
M902	A-7095-396-A	MOTOR BLOCK ASSY, L (LOARDING)
S902	1-477-679-11	ROTARY, ENCODER (SWITCH) (MODE SWITCH)

5-2. ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description			
	A-1081-699-A	CD-534 BOARD, COMPLETE			
		**********			
		(IC201 is not included in this complete board.)			
		< CAPACITOR >			
C202	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C204	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C206	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C207	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C208	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C209	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C211	1-127-820-11	CERAMIC CHIP	4.7uF	10%	16V
C214	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C215	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C217	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C218	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C219	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C220	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C221	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
		< CONNECTOR >			
CN201	1-784-423-21	CONNECTOR, FFC/FPC (ZIF) 39P			
		< FERRITE BEAD >			
FB201	1-414-760-21	FERRITE, EMI (SMD) (1608)			
		< IC >			
IC201	A-1103-137-A	CCD BLOCK ASSY (CCD IMAGER) (Note)			
IC203	6-701-755-01	IC AD80017AJRURL			
		< COIL >			
L201	1-469-528-91	INDUCTOR	100uH		
L202	1-400-588-11	INDUCTOR, LAMINATE CHIP	10uH		
		< TRANSISTOR >			
Q201	6-550-234-01	TRANSISTOR	UNR32A300LS0		
Q202	8-729-055-21	TRANSISTOR	2SC5096-O/R (TE85L)		
		< RESISTOR >			
R203	1-218-990-11	SHORT CHIP	0		
R207	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R210	1-218-965-11	RES-CHIP	10K	5%	1/16W
R211	1-218-953-11	RES-CHIP	1K	5%	1/16W
R212	1-218-966-11	RES-CHIP	12K	5%	1/16W
R215	1-218-990-11	SHORT CHIP	0		
	A-1081-704-A	CR-050 BOARD, COMPLETE			
		**********			
		< CONNECTOR >			
CN001	1-817-283-41	CONNECTOR, FPC (ZIF) 51P			
CN002	(Not supplied)	CONNECTOR, MULTIPLE (SOCKET)			

Ref. No.	Part No.	Description			
		< DIODE >			
D001	6-500-044-01	DIODE DF6A6.8FU (TE85R)			
D002	6-500-044-01	DIODE DF6A6.8FU (TE85R)			
D003	6-500-044-01	DIODE DF6A6.8FU (TE85R)			
D005	6-500-044-01	DIODE DF6A6.8FU (TE85R)			
D006	6-500-776-01	DIODE MAZW068H0LS0			
D007	8-719-083-91	DIODE EDZ TE61 6.8B			
	1-864-756-11	FP-180 FLEXIBLE BOARD			
		**********			
		(BH001 and J001 are not included in this flexible board.)			
		< BATTERY TERMINAL >			
BH001	1-780-064-21	BATTERY TERMINAL BOARD			
		< JACK >			
J001	1-815-792-11	CONNECTOR, DC-IN (7.2V) (DC IN)			
	A-1082-042-A	FP-186 FLEXIBLE BOARD, COMPLETE			
		**********			
		< SWITCH >			
S101	1-786-179-31	SWITCH, PUSH (1KEY) (PANEL REVERSE)			
	A-1082-203-A	FP-187 FLEXIBLE BOARD, COMPLETE			
		**********			
		< DIODE >			
D001	6-501-052-01	DIODE CL-197HB1-D-T (EASY)			
D002	6-500-776-01	DIODE MAZW068H0LS0			
D003	6-500-776-01	DIODE MAZW068H0LS0			
D004	8-719-060-92	DIODE SML-311YTT86 (CHG)			
		< RESISTOR >			
R001	1-216-822-11	METAL CHIP	1.2K	5%	1/10W
R002	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R003	1-216-817-11	METAL CHIP	470	5%	1/10W
R004	1-216-805-11	METAL CHIP	47	5%	1/10W
		< SWITCH >			
S001	1-771-138-82	SWITCH, KEY BOARD (DSPL/BATT INFO)			
S002	1-771-138-82	SWITCH, KEY BOARD (EASY)			
S003	1-771-138-82	SWITCH, KEY BOARD (BACK LIGHT)			
S004	1-786-180-31	SWITCH, PUSH (1KEY) (PANEL OPEN/CLOSE)			

Note: Be sure to read “Precautions for Replacement of CCD Imager” on page 4-5 when changing the CCD imager.

Note: CCDイメージャの交換時は4–6ページの“CCDイメージャ交換時の注意”を必ずお読みください。

FP-467 **FP-826** **JK-278** **LB-109** **MS-249**

Ref. No.	Part No.	Description
	1-686-798-11	FP-467 FLEXIBLE BOARD
		**********
		(S902 is not included in this flexible board.)
		< SWITCH >
S902	1-477-679-11	ROTARY, ENCODER (SWITCH) (MODE SWITCH)
	(Not supplied)	FP-826 FLEXIBLE BOARD
		**********
		(This flexible board is included in LS BLOCK ASSY (A-7095-951-A).)
		< DIODE >
D901	6-500-652-01	DIODE GL453SE0000F (TAPE LED)
		< HOLL ELEMENT >
H901	8-719-067-74	ELEMENT, HOLE HW-105A-CDE-T (S REEL)
H902	8-719-067-74	ELEMENT, HOLE HW-105A-CDE-T (T REEL)
		< CONNECTOR >
MIC902	1-817-175-12	PIN, CONNECTOR (WITH DELCTION SWITCH)
		< TRANSISTOR >
Q901	6-550-672-01	TRANSISTOR PT4850FJE00F (TAPE END)
Q902	6-550-672-01	TRANSISTOR PT4850FJE00F (TAPE TOP)
		< SWITCH >
S903	1-529-566-51	SWITCH, PUSH (1 KEY) (C.C. DOWN)
	A-1081-841-A	JK-278 BOARD, COMPLETE
		**********
		< CONNECTOR >
CN701	1-815-794-21	CONNECTOR (MULTIPLE) (AV OUT: HC39E) (AV: EXCEPT HC39E)
CN704	1-818-087-31	CONNECTOR, FFC/FPC (LIF) 26P
		< DIODE >
D705	6-500-044-01	DIODE DF6A6.8FU (TE85R)
D706	6-500-044-01	DIODE DF6A6.8FU (TE85R)
D707	6-500-044-01	DIODE DF6A6.8FU (TE85R)
		< FERRITE BEAD >
FB701	1-400-823-11	EMI FERRITE (SMD) (1005)
FB702	1-400-823-11	EMI FERRITE (SMD) (1005)
FB703	1-400-823-11	EMI FERRITE (SMD) (1005)
		< JACK >
J701	1-793-995-11	JACK, SUPER SMALL TYPE (LANC)

CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			
		< RESISTOR >			
R705	1-218-990-11	SHORT CHIP	0		
R706	1-218-990-11	SHORT CHIP	0		
R707	1-218-990-11	SHORT CHIP	0		
R709	1-218-990-11	SHORT CHIP	0		
	A-1081-845-A	LB-109 BOARD, COMPLETE (HC39E)			
	A-1081-846-A	LB-109 BOARD, COMPLETE (EXCEPT HC39E)			
		**********			
		< CAPACITOR >			
C301	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C302	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C303	1-164-505-11	CERAMIC CHIP	2.2uF		16V
		< CONNECTOR >			
CN301	1-818-046-11	FFC/CONNECTOR, FPC (LIF (NON-ZIF)) 20P			
CN302	1-784-420-11	CONNECTOR, FFC/FPC (ZIF) 21P			
		< DIODE >			
D302	6-500-941-01	DIODE MAZS056008S0			
D303	6-500-874-01	DIODE E1S35-AW0C7-01-A2 (BACKLIGHT) (HC39E)			
D303	8-719-082-33	DIODE NSCW100-T38 (BACKLIGHT) (EXCEPT HC39E)			
		< RESISTOR >			
R302	1-216-841-11	METAL CHIP	47K	5%	1/10W
R303	1-218-971-11	RES-CHIP	33K	5%	1/16W
R304	1-218-975-11	RES-CHIP	68K	5%	1/16W
R305	1-218-989-11	RES-CHIP	1M	5%	1/16W
	A-1081-843-A	MS-249 BOARD, COMPLETE			
		**********			
		< BATTERY >			
⚠BT501	1-756-075-21	BATTERY, LITHIUM (SECONDARY)			
		< CONNECTOR >			
* CN501	1-691-378-21	CONNECTOR, FFC/FPC 14P			
CN502	1-778-506-21	PIN, CONNECTOR (PC BOARD) 2P			
CN503	1-817-913-41	MEMORY STICK DUO CONNECTOR			
		< DIODE >			
D501	6-500-817-01	DIODE SML-512UWT86 (MS ACCESS)			
D503	6-500-776-01	DIODE MAZW068H0LS0			
		< RESISTOR >			
R501	1-218-949-11	RES-CHIP	470	5%	1/16W
		< SWITCH >			
S501	1-771-138-82	SWITCH, KEY BOARD (RESET)			

注意
電池の交換は，正しく行わないと破裂する恐れがあります。電池を交換する場合には必ず同じ型名の電池又は同等品と交換してください。

⚠印の部品，または⚠印付きの点線で囲まれた部品は，安全性を維持するために重要な部品です。
従って交換時は，必ず指定の部品を使用して下さい。

Ref. No.	Part No.	Description			
	A-1081-853-A	PD-238 BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C602	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C603	1-137-710-11	CERAMIC CHIP	10uF	20%	6.3V
C606	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C608	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C610	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C611	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C612	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C614	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C615	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C616	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C617	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C618	1-125-889-91	CERAMIC CHIP	2.2uF	10%	10V
C622	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C623	1-137-710-11	CERAMIC CHIP	10uF	20%	6.3V
C624	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C625	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C626	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C627	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C631	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C633	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
		< CONNECTOR >			
CN601	1-815-031-11	FFC/CONNECTOR, FPC (ZIF) 24P			
CN602	1-691-370-11	CONNECTOR, FFC/FPC 6P			
CN603	1-816-176-11	FFC/CONNECTOR, FPC (ZIF) 6P			
CN605	1-815-031-11	FFC/CONNECTOR, FPC (ZIF) 24P			
CN608	1-816-176-11	FFC/CONNECTOR, FPC (ZIF) 6P			
CN609	1-816-176-11	FFC/CONNECTOR, FPC (ZIF) 6P			
		< DIODE >			
D602	6-500-941-01	DIODE MAZS056008S0			
		< FERRITE BEAD >			
FB601	1-400-461-21	FERRITE, EMI (SMD) (1005)			
		< IC >			
IC601	8-759-693-13	IC NJM12904V (TE2)			
IC602	8-753-229-98	IC CXM3006CR-T4			
		< COIL >			
L601	1-400-588-11	INDUCTOR, LAMINATE CHIP	10uH		
L602	1-400-588-11	INDUCTOR, LAMINATE CHIP	10uH		
L603	1-400-588-11	INDUCTOR, LAMINATE CHIP	10uH		
		< TRANSISTOR >			
Q601	8-729-427-52	TRANSISTOR	XP4216		
Q602	8-729-427-23	TRANSISTOR	XP4116-TXE		
Q606	8-729-026-53	TRANSISTOR	2SA1576A-T106-QR		
Q607	8-729-026-53	TRANSISTOR	2SA1576A-T106-QR		
Q608	6-550-234-01	TRANSISTOR	UNR32A300LS0		
Q609	8-729-041-23	TRANSISTOR	NDS356AP		
Q610	6-550-232-01	TRANSISTOR	2SA2029T2LQ/R		
Q611	8-729-026-53	TRANSISTOR	2SA1576A-T106-QR		

Ref. No.	Part No.	Description			
Q613	8-729-053-52	TRANSISTOR	HN1C01FE-Y/GR (TPLR3)		
		< RESISTOR >			
R605	1-208-855-81	METAL CHIP	47	0.5%	1/16W
R606	1-208-943-11	METAL CHIP	220K	0.5%	1/16W
R608	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R609	1-218-975-11	RES-CHIP	68K	5%	1/16W
R613	1-208-934-11	METAL CHIP	91K	0.5%	1/16W
R614	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R615	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R616	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R617	1-218-953-11	RES-CHIP	1K	5%	1/16W
R619	1-208-855-81	METAL CHIP	47	0.5%	1/16W
R620	1-218-965-11	RES-CHIP	10K	5%	1/16W
R623	1-208-855-81	METAL CHIP	47	0.5%	1/16W
R624	1-218-977-11	RES-CHIP	100K	5%	1/16W
R625	1-218-990-11	SHORT CHIP	0		
R626	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R627	1-218-955-11	RES-CHIP	1.5K	5%	1/16W
R628	1-218-949-11	RES-CHIP	470	5%	1/16W
R634	1-218-989-11	RES-CHIP	1M	5%	1/16W
R636	1-218-990-11	SHORT CHIP	0		
R637	1-218-978-11	RES-CHIP	120K	5%	1/16W
R638	1-216-864-11	SHORT CHIP	0		
R639	1-216-864-11	SHORT CHIP	0		
R642	1-218-973-11	RES-CHIP	47K	5%	1/16W
R643	1-218-973-11	RES-CHIP	47K	5%	1/16W
R644	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R645	1-218-960-11	RES-CHIP	3.9K	5%	1/16W
		< COMPOSITION CIRCUIT BLOCK >			
RB601	1-234-369-21	RES, NETWORK	10 (1005X4)		

	A-1081-844-A	SI-042 BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C602	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C603	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C608	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C610	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C611	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C612	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C613	1-137-710-11	CERAMIC CHIP	10uF	20%	6.3V
C614	1-137-710-11	CERAMIC CHIP	10uF	20%	6.3V
C615	1-137-710-11	CERAMIC CHIP	10uF	20%	6.3V
C616	1-137-710-11	CERAMIC CHIP	10uF	20%	6.3V
C618	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C619	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C621	1-100-252-11	CERAMIC CHIP	0.1uF	10%	6.3V
		< CONNECTOR >			
CN601	1-778-507-21	PIN, CONNECTOR (PC BOARD) 4P			
CN603	1-766-348-21	CONNECTOR, FFC/FPC 18P			

SI-042

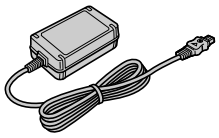
Ref. No.	Part No.	Description			
		< DIODE >			
D601	6-500-512-01	DIODE CL-330IRS-X-TU (IR EMITTER/NIGHTSHOT)			
D602	6-500-817-01	DIODE SML-512UWT86 (CAMERA RECORDING)			
D604	8-719-988-61	DIODE 1SS355TE-17			
		< FERRITE BEAD >			
FB601	1-469-179-21	INDUCTOR, FERRITE BEAD			
FB602	1-469-179-21	INDUCTOR, FERRITE BEAD			
FB603	1-469-179-21	INDUCTOR, FERRITE BEAD			
FB604	1-469-179-21	INDUCTOR, FERRITE BEAD			
		< IC >			
IC601	6-600-163-01	IC RS-770			
IC602	8-759-489-19	IC uPC6756GR-8JG-E2			
		< COIL >			
L601	1-400-588-11	INDUCTOR, LAMINATE CHIP 10uH			
		< RESISTOR >			
R601	1-218-949-11	RES-CHIP	470	5%	1/16W
R602	1-218-989-11	RES-CHIP	1M	5%	1/16W
R603	1-218-965-11	RES-CHIP	10K	5%	1/16W
R604	1-218-937-11	RES-CHIP	47	5%	1/16W
R605	1-218-965-11	RES-CHIP	10K	5%	1/16W
R606	1-218-989-11	RES-CHIP	1M	5%	1/16W
R607	1-216-821-11	METAL CHIP	1K	5%	1/10W
		< COMPOSITION CIRCUIT BLOCK >			
RB601	1-234-379-21	RES, NETWORK 22K (1005X4)			
		< SWITCH >			
S601	1-786-148-11	SWITCH, PUSH (1 KEY) (LENS COVER OPEN)			
		< SENSOR >			
SE601	1-476-807-41	SENSOR, ANGULAR VELOCITY (PITCH SENSOR)			
SE602	1-476-807-31	SENSOR, ANGULAR VELOCITY (YAW SENSOR)			

Electrical parts list of the VC-378 board is not shown.
Pages 5-15 to 5-22 are not shown.

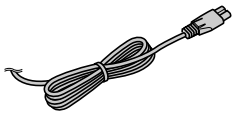
• E MODEL

Checking supplied accessories.

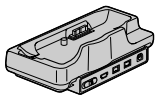
to J MODEL



AC-L AC Adaptor (1)
⚠ 1-477-534-11

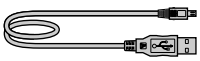


Power Cord (1)
⚠ 1-769-608-31 (AEP, E)
⚠ 1-776-985-11 (KR)
⚠ 1-782-476-51 (CH)
⚠ 1-783-374-12 (UK, HK)
⚠ 1-790-107-41 (US, CND)
⚠ 1-790-732-71 (JE)
⚠ 1-827-945-11 (AUS)

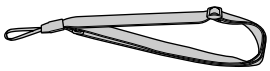


Handycam station (1)
DCRA-C121
1-818-729-11 (HC42/HC42E/HC43)
DCRA-C123
1-818-729-31 (HC39E)

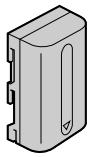
Shoe cover (1)
2-188-484-01



USB cable (1)
1-829-868-31



Shoulder strap (1)
2-176-235-01



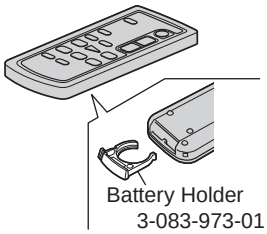
Rechargeable battery pack
NP-FP50 (1)

A/V connecting cable (1)
1-823-156-51

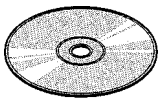
21-pin adaptor (1)
1-770-783-21
(AEP, UK)

Conversion 2P adaptor (1)
⚠ 1-569-008-12 (E)

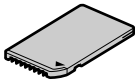
Conversion 2P adaptor (1)
⚠ 1-569-007-12 (JE)



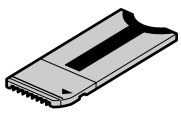
Wireless Remote Commander
RMT-831 (1)
1-477-898-41



CD-ROM
(SPVD-012 2005 USB Driver)
(Picture Package Ver. 1.5) (1)
2-515-350-01 (EXCEPT CH)
2-586-797-01 (CH)



Memory Stick Duo (1)
(not supplied)
(HC43/HC43E)



Memory Stick Duo adaptor (1)
(not supplied)
(HC43/HC43E)

Other accessories

2-584-906-11 MANUAL, INSTRUCTION (ENGLISH)
(HC42: US, CND, E, JE)
2-584-906-21 MANUAL, INSTRUCTION (FRENCH) (HC42: CND)
2-584-906-31 MANUAL, INSTRUCTION (SPANISH) (HC42: E, JE)
2-584-906-41 MANUAL, INSTRUCTION (PORTUGUESE) (HC42: E, JE)
2-584-906-51 MANUAL, INSTRUCTION (TRADITIONAL CHINESE)
(HC42: E)

2-584-906-61 MANUAL, INSTRUCTION (KOREAN) (HC42: KR, JE)
2-584-907-11 MANUAL, INSTRUCTION (ENGLISH)
(HC39E: AEP, UK/HC42E: AEP, UK, E, HK, AUS, JE)
2-584-907-21 MANUAL, INSTRUCTION (FRENCH)
(HC39E: AEP/HC42E: AEP, E)
2-584-907-31 MANUAL, INSTRUCTION (SPANISH, PORTUGUESE)
(HC39E: AEP/HC42E: AEP)
2-584-907-41 MANUAL, INSTRUCTION (ITALIAN, GREEK)
(HC39E: AEP/HC42E: AEP)

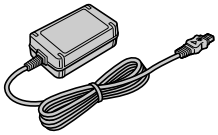
2-584-907-51 MANUAL, INSTRUCTION (GERMAN, DUTCH)
(HC39E: AEP/HC42E: AEP, JE)
2-584-907-61 MANUAL, INSTRUCTION (SWEDISH, RUSSIAN)
(HC39E: AEP/HC42E: AEP)
2-584-907-71 MANUAL, INSTRUCTION (DANISH, FINNISH)
(HC39E: NE/HC42E: NE)
2-584-907-81 MANUAL, INSTRUCTION (POLISH, CZECH)
(HC39E: EE/HC42E: EE)
2-584-907-91 MANUAL, INSTRUCTION (HUNGARIAN, SLOVAKIAN)
(HC39E: EE/HC42E: EE)

2-586-575-11 MANUAL, INSTRUCTION (ARABIC, PERSIAN) (HC42E: E)
2-586-575-21 MANUAL, INSTRUCTION (TRADITIONAL CHINESE)
(HC42E: HK)
2-586-575-31 MANUAL, INSTRUCTION (SIMPLIFIED CHINESE)
(HC42E: E, JE)

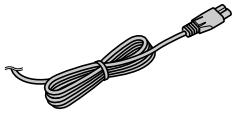
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

• J MODEL

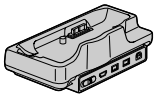
付属品



ACアダプター(1)
(AC-L15A/L15B)
⚠ 1-477-534-11



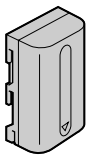
電源コード(1)
⚠ 1-790-732-71



ハンディーカム
ステーション(1)
(DCRA-C121)
1-818-729-11

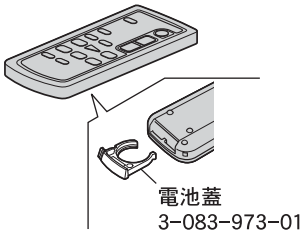
シューカバー(1)
2-188-484-01

USBケーブル(1)
1-829-868-31



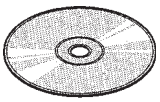
リチャージャブル
バッテリーパック(1)
(NP-FP50)

A/V接続ケーブル(1)
1-823-156-51



電池蓋
3-083-973-01

ワイヤレスリモコン(1)
RMT-831
1-477-898-51



CD-ROM
(SPVD-012 2005 USBドライバ)
(Picture Package Ver. 1.5)(1)
2-515-350-01

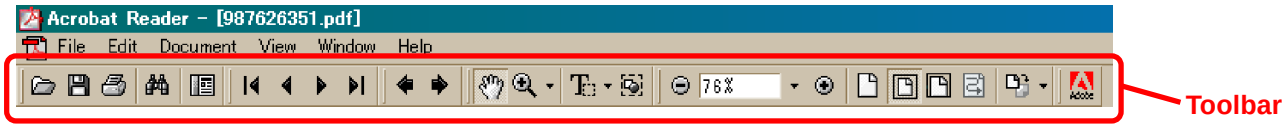
図面
番号

部品コード	部品名
2-584-906-01	取扱説明書

⚠印の部品，または⚠印付きの点線で囲まれた部品は，
安全性を維持するために重要な部品です。
従って交換時は，必ず指定の部品を使用して下さい。

ENGLISH | JAPANESE

[Description of main button functions on toolbar of the Adobe Acrobat Reader Ver5.0 (for Windows)]



Printing a text

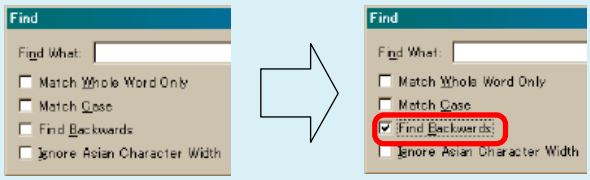
1. Click the Print button .
2. Specify a printer, print range, number of copies, and other options, and then click [OK].

Application of printing:
To set a range to be printed within a page, select the graphic selection tool and drag on the page to enclose a range to be printed, and then click the Print button.

Finding a text

1. Click the Find button .
2. Enter a character string to be found into a text box, and click the [Find]. (Specify the find options as necessary)

Application to the Service Manual:
To execute "find" from current page toward the previous pages, select the check box "Find Backward" and then click the "Find".



3. Open the find dialog box again, and click the [Find Again] and you can find the matched character strings displayed next. (Character strings entered previously are displayed as they are in the text box.)

Application to the Service Manual:
The parts on the drawing pages (block diagrams, circuit diagrams, printed circuit boards) and parts list pages in a text can be found using this find function. For example, find a Ref. No. of IC on the block diagram, and click the [Find Again] continuously, so that you can move to the Ref. No. of IC on the circuit diagram or printed circuit board diagram successively.
Note: The find function may not be applied to the Service Manual depending on the date of issue.

Switching a page

- To move to the first page, click the .
- To move to the last page, click the .
- To move to the previous page, click the .
- To move to the next page, click the .

Reversing the screens displayed once

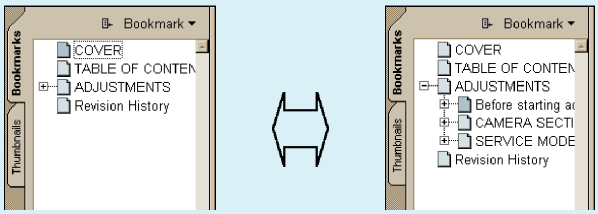
- To reverse the previous screens (operation) one by one, click the .
- To advance the reversed screens (operation) one by one, click the .

Application to the Service Manual:
This function allows you to go and back between circuit diagram and printed circuit board diagram, and accordingly it will be convenient for the voltage check.

Moving with link

1. Select either palm tool , zoom tool , text selection tool , or graphic selection tool .
2. Place the pointer in the position in a text where the link exists (such as a button on cover and the table of contents page, or blue characters on the removal flowchart page or drawing page), and the pointer will change to the forefinger form .
3. Then, click the link. (You will go to the link destination.)

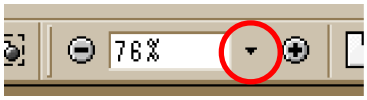
Moving with bookmark:
Click an item (text) on the bookmark pallet. and you can move to the link destination. Also, clicking can display the hidden items.
(To go back to original state, click)



Zooming or rotating the screen display

"Zoom in/out"

- Click the triangle button in the zoom control box to select the display magnification. Or, you may click or for zooming in or out.



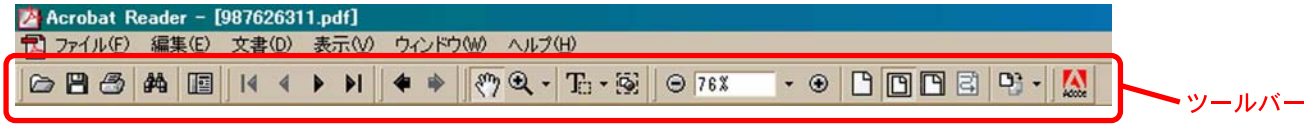
"Rotate"

- Click rotate tool , and the page then rotates 90 degrees each.

Application to the Service Manual:
The printed circuit board diagram you see now can be changed to the same direction as the set.

ENGLISH JAPANESE

【Adobe Acrobat Reader Ver 5.0(for Windows)ツールバー内にある主なボタンの機能説明】



文章を印刷する

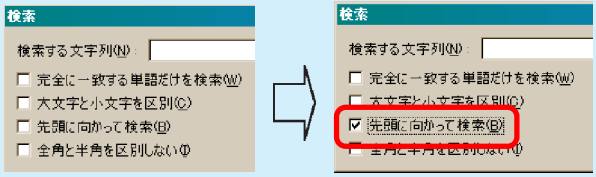
1. 印刷ボタンをクリックする。
2. プリンター、印刷範囲、印刷部数、および他のオプションを指定して「OK」をクリックする。

印刷の応用：
ページ内で印刷したい範囲を設定するには、グラフィック選択ツールを選択し、ページ上をドラッグして印刷したい範囲を囲んでから印刷ボタンをクリックする。

文章内を検索する

1. 検索ボタンをクリックする。
2. 検索したい文字列をテキストボックスに入力して「検索」をクリックする。(必要に応じて検索オプションを指定する)

サービスマニュアルへの応用：
現在のページから前ページに向かって検索する場合は「先頭に向かって検索」のチェックボックスを選択してから「検索」をクリックする。



3. 検索ダイアログボックスをもう一度開き、「次を検索」をクリックすると次に出てくる一致文字列を検索することができる。(前回入力した文字列が、テキストボックスにそのまま表示されている)

サービスマニュアルへの応用：
文章内にある図面ページ(ブロックダイヤグラム、回路図、プリント図)および部品表ページなどは、この検索機能を使って部品検索することができる。例えば、ブロックダイヤグラム上でICのRef. No.を検索し、「次を検索」を続けることによって回路図、プリント図上にあるICのRef. No.へ次々と移動する。
注意：発行年月日によって検索できない場合もあります。

ページを切り換える

- 最初のページに移動する場合、をクリックする。
- 最後のページに移動する場合、をクリックする。
- 前のページに移動する場合、をクリックする。
- 次のページに移動する場合、をクリックする。

一度表示した画面へ逆戻りする

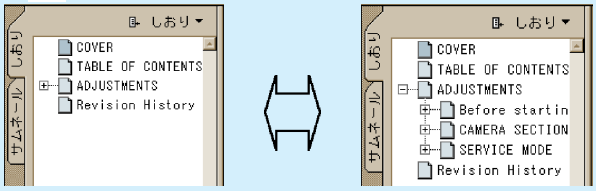
- 前の画面(操作)へ1つずつ逆戻りする場合、をクリックする。
- 戻した画面(操作)を1つずつ前に進める場合、をクリックする。

サービスマニュアルへの応用：
回路図とプリント図を行き来できるので電圧チェックに便利です。

リンクを使用して移動する

1. 手のひらツール、ズームツール、テキスト選択ツール、グラフィック選択ツールのいずれかを選択する。
2. 文章内のリンクのある場所(表紙および章目次ページのボタン、外し方のフローページ、図面ページでは文字が青色になっているところなど)にポインタを置くと、ポインタが人差し指の形「」に変わる。
3. そのままリンクをクリックする。(リンク先へ移動する)

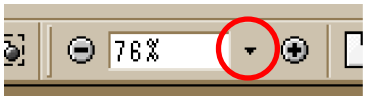
しおりを利用して移動する：
しおりパレット上の項目(テキスト)をクリックするとリンク先へ移動することができる。また、「」をクリックすると隠れている項目を表示することができる。
(「」をクリックすると元に戻る)



画面の表示を拡大、縮小または回転させる

「拡大/縮小」

- 倍率ボックスの三角矢印ボタンをクリックし、表示倍率を選択する。または、をクリックしても使えます。



「回転」

- 回転ツールをクリックすると、ページが90度ずつ回転する。

サービスマニュアルへの応用：
見ているプリント図をセットと同じ向きに変えられます。

Revision History

Ver.	Date	History	Contents	S.M. Rev. issued
1.0	2005.01	Official Release	—	—